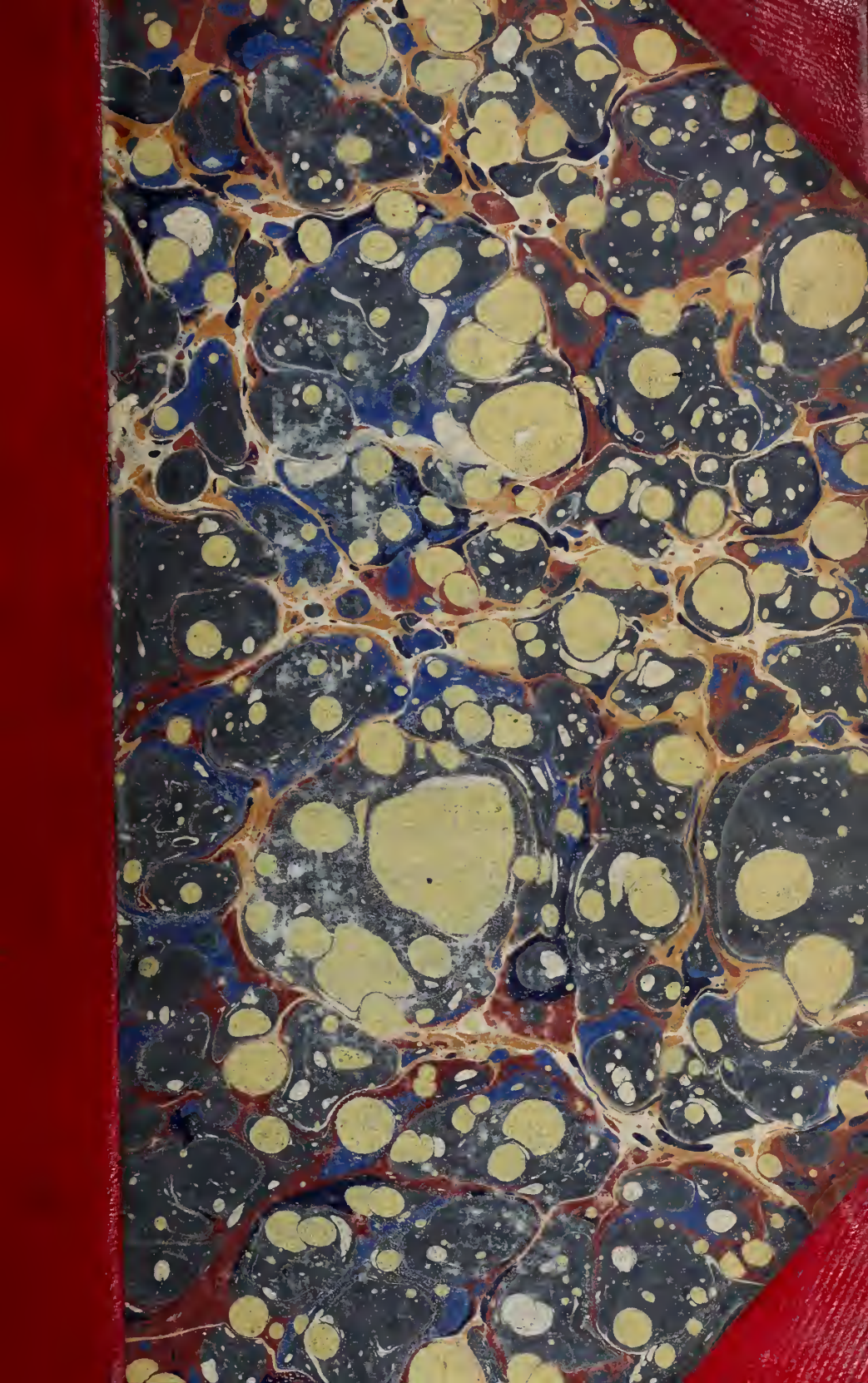

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THE CHICAGO

MEDICAL EXAMINER,

A MONTHLY JOURNAL, DEVOTED TO THE

EDUCATIONAL, SCIENTIFIC AND PRACTICAL INTERESTS

OF THE

MEDICAL PROFESSION.

EDITED BY

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N. S. DAVIS, M.D., Editor.

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Original Contributions.

ARTICLE I.

ON OPERATIONS FOR INJURIES OF THE HEAD.

By A. FISHER, M.D., of Chicago, Ill.

Read before the Chicago Medical Society.

In the treatment of injuries of the head, it is a great desideratum to understand the judicious use of the trephine, that we may secure to our patients all the benefits of an operation, when necessary, without subjecting them to the pain and danger of one that is unnecessary and, consequently, injurious.

Feeling the importance of being governed by correct principles, in designating such cases of injuries of the head as may be benefited by an operation, I shall endeavor this evening to call the attention of the Society to the subject, not expecting, however, to be able to say anything specially new in reference to it.

Before the time of the celebrated Doctor Pott, it was the practice of surgeons to trephine (or trepan as it was then called, from the name of the instrument used,) for almost all fractures of the skull, whether there were symptoms of compression or not. When there was fracture of the cranium with inflammation following it, they would trepan to give exit to the pus, before there was any evidence of its formation. If no inflammation

had occurred, they would make a free opening with the trepan in different places along the fracture, for an outlet to all offending matters, as alleged, to prevent such an occurrence.

At one time the mania for trepanning was carried to such an extent, that surgeons seemed to vie with each other, to see which could bore the most holes in a patient's head, without killing him.

As an example of such practice, I will copy a certificate from LISTON'S Practice of Surgery, quoted from JOHN BELL'S Principles of Surgery:—

"I, the underwritten, Phillip, Count of Nausau, hereby declare and testify, that Mr. Henry Chadborn did trepan me in the skull twenty-seven times, and that after did cure me well and sound."

That a certificate should be procured to prove that the patient was cured "well and sound," after such an operation, is no wonder, especially as it is well known that the bone is never reproduced to any extent in the cranium, after the age of puberty. Thereby showing that the certificate of cure "well and sound," was as impossible and inconsistent as the operation was hazardous and useless. I have not alluded to the bygone practices of men, who were in their day at the head of the profession, for the purpose of ridicule, but merely to show the great improvement in surgery within the last half century.

At the present time, the principal indications for the use of the trephine in injuries of the head, are either to relieve the brain from undue pressure, or to remove pus, fragments of bone, or other foreign substances, from the substance of the brain, or from between the membranes covering it and the cranium.

Compression of the brain may be caused in various ways. We shall first speak of compression from extravasation of blood, caused by injuries of the head. To diagnose compression of the brain correctly, we must understand the symptoms of concussion as well as compression. In concussion, the patient is suddenly prostrated by the injury like a paroxysm of syncope; the pulse at first may be imperceptible or very indistinct, feeble, small, and frequent, respiration not much effected; the patient

is generally sensible to external impressions, and dislikes to be disturbed; there is loss of memory or inability to comprehend, when apparently rational; the pupils are movable and not permanently dilated, though frequently insensible to the action of light; the extremities soon become cold, and the surface pale and contracted; before reaction is restored, the patient is almost sure to vomit, which is a favorable sign. In compression, there is complete insensibility, which may be sudden, or come on by degrees; the system is perfectly relaxed and insensible to external impressions; respiration is stertorous, slow, and laborious; pulse slow, full, and strong; pupils permanently dilated, and immovable by light; skin warmer than natural, and in bad cases, bedewed with perspiration; the bladder soon becomes distended, unless relieved by the catheter; the bowels move involuntarily.

The symptoms of concussion and compression are so very different that there is no difficulty in diagnosing compression at once, where it is uncomplicated with concussion. In most instances, however, when a patient receives an injury sufficiently severe to produce extravasation to any great extent, concussion either precedes or accompanies it, so that immediately after an injury we may have symptoms of both, commingled and changed in such a manner, that it is impossible to say how much the brain is suffering from compression alone. Although the symptoms of concussion may at first be well marked and unmistakable, without any sign of compression, still, we cannot be sure that extravasation will not occur when reaction is fully established. Therefore, in the treatment of concussion, it is well to bear in mind, that stimulants and other active measures calculated to bring on sudden reaction should be avoided; for, should the bloodvessels be lacerated, extravasation would be more likely to occur, and besides, the inflammatory symptoms would be aggravated by the means. It is generally sufficient in concussion, to apply warmth to the extremities, sinapisms over the stomach, and move the bowels with an enema: by such a course the vital powers will resume their functions more gradually, but just as surely, without the risk of a sudden reaction. When

the system has recovered from the shock, we should endeavor in every possible way to prevent inflammation. Should there be extravasated blood to some extent, it may be absorbed, or the brain may accommodate itself to the pressure, if it is not too sudden, or the quantity of blood too great. When the brain is suffering from undue pressure from extravasation, whether sudden, or following concussion, and is not amenable to treatment, our hope is reduced to an operation, which unfortunately, is a dernier resort, that is generally very unpromising. Unless the injury is over a branch of the meningeal artery, with fracture, or of such a nature as to make it at least probable, that we can introduce the trephine directly over the ruptured vessels, our hopes of success are small indeed; even in the most favorable cases we are often disappointed, for frequently every thing will appear to locate the extravasation under the wound or injury, when perhaps, it will be found in the opposite side of the head, or somewhere out of reach. I have seen a number of instances of the kind revealed by *post mortem* examinations, after the trephine had been unsuccessfully used. Now, if there is so little hopes of locating the point of extravasation with certainty, the question arises: is an operation ever warranted in such cases? When the breathing is stertorous, pulse full, strong, and slow, with positive signs of compression, we ought to make an effort to save the life of the patient by an operation, if there is the least probability of ascertaining the location of the clot. For if we cannot relieve the brain from pressure, death is certain, and if we should succeed in removing the cause of compression, the patient may recover. But whether the operation is successful or not, we shall have the satisfaction of using all the means in our power to save life, with the consciousness that the operation would be harmless under the circumstances.

When there are evident signs of laceration of the brain, diagnosed by a frequent small pulse, cold extremities, and other symptoms of immediate collapse, no one in his senses would think of using the trephine. I have never known a patient recover from compression of the brain, whether operated on or

not, whose pulse was 120 or more, after recovering from the preceding concussion.

Operations are sometimes required to give exit to pus accumulated between the cranium and dura mater, producing compression of the brain. The collection of pus in such cases, is the result of inflammation, either acute or chronic, which is generally caused by some kind of injury of the head, with or without, extravasation. The injury may be severe, or so slight as scarcely to be noticed at the time, the patient and even the surgeon may think that all danger has passed. But, perhaps, in a few days, or weeks, irregular chills and fever supervene, with pain in the head, the appetite fails, drowsiness comes on, with disinclination to talk or move. In short, we have all the symptoms of the formation of pus within the cranium. The symptoms growing more and more grave, until signs of compression are fully developed, which may be accomplished in a few days, or months may even pass, before the brain begins to suffer from undue pressure. Upon examining the head, if there is a wound it looks unhealthy, and does not heal kindly, the edges are generally pale, puffy, and glossy; the pus, if any is secreted, is not laudable, and perhaps, the cranium is denuded of its covering in the wound. In cases where there is no wound, there is generally a puffy swelling over the abscess, marking its location.

When we are fully satisfied, both from the constitutional and local symptoms, that there is a collection of pus between the dura mater and brain, and the constitutional symptoms are urgent, we should at once make an opening with the trephine for its outlet, more especially when there are signs of compression in addition. Notwithstanding we have every reason to believe, from the nature of the wound, and the constitutional symptoms, that the abscess is between the dura mater and cranium; we should be cautious in our diagnosis, for in some cases it may be found beneath the dura mater, in the substance of the brain, where an operation cannot reach it. Still the possibility of being mistaken in regard to the location of the abscess, ought not to deter us from giving the patient the

benefit of an operation, when we have the ordinary signs to guide us; for if the pus is allowed to remain confined by the cranium, necrosis or death will surely follow.

In compound comminuted fractures, with displacement, operations are often advisable, when the brain is not suffering from compression. When the cranium is fractured, and a portion depressed and exposed to view by the injury, we should raise the depressed bone, or remove it entirely by using the trephine, if it cannot be raised without leaving comminuted pieces of bone to press upon, and irritate the dura mater; and the sooner the operation is performed (after the patient has sufficiently recovered from the shock,) the better, whether there is compression or not.

If we suffer the depressed bone to remain with its sharp edges, it will irritate, and perhaps, perforate the dura mater, and produce inflammation and suppuration of that membrane, with all its direful consequences. Then again, in all probability an operation will become indispensible, which, under the circumstances, will be more hazardous, and materially lessen the prospect of success. A case in illustration occurred in my practice a short time since:—

Mr. Mason, of a robust constitution, about 28 years old, whose residence is near Zanesville, Ohio, was stopping at the Brighton House, about five miles from the city, with a view of recruiting his horse, which he intended to offer for sale at the world's horse fair. When about to exhibit him to a friend, Sept. 1st, 1862, the day before the commencement of the fair, he was kicked by the horse on the side of his head. The toe caulk of the horse's shoe making a cut of a circular form, the convexity being upwards, three inches long, about an inch above, and a little anterior to, the top of the ear, on the left side of the head, making a smooth cut through the scalp, severing the posterior branch of the temporal artery, and fracturing the skull. A piece of the bone about two inches in length, longitudinally, and one inch vertically, was driven upon the dura mater and brain, besides comminuted pieces. Anteriorly, the bone was depressed about half an inch, and posteriorly, the thickness of

the bone. I saw the patient about two hours after the injury: the attendants said that his extremities had been cold, but for the last half-hour were getting warmer. From the quantity of clot, I judged that he had lost 30 ounces of blood, or more. His pulse was weak and feeble, respiration normal, the extremities and surface generally, were rather cooler than natural: he was apparently insensible, but would move if handled The symptoms were undoubtedly those of concussion, without compression of the brain. It was evident from the first view of the wound, that the depressed bones must be removed before the patient could recover. It was a question, however, of importance to decide, whether reaction was sufficiently developed to warrant the operation at that time. After mature reflection, I concluded that the shock of the operation would not depress the system as much as the irritation caused by the depressed bone, besides inflammation would be less likely to occur, to remove the depressed bone at once, than to defer the operation. I therefore shaved the head sufficiently, and ordered cloths wet in cold water to be applied, whilst I went home to make preparations to operate. Dr. Myers returned with me, and administered chloroform to the patient, and assisted me in the operation. Although the patient was apparently insensible, he was in constant motion if touched, making it necessary to put him fully under the influence of chloroform, before we could operate. The bone being exposed by the injury, I had only to enlarge the wound sufficiently to introduce the trephine, we had to perforate the cranium in two places, before the depressed bone could be extracted without injury to the dura mater. After carefully removing every loose piece of bone, and waiting until the hemorrhage had entirely ceased, the parts were brought together and confined by sutures; a napkin wet in cold water was laid over the wound, with directions to keep it wet constantly. There being no compression before the operation, it produced no immediate relief. He was gradually recovering from the shock, and he continued to improve about the same after the operation. I prescribed no medicine, but left directions to keep him quiet, and give him nourishing drinks.

Sept. 2d. Found the patient improving, answers questions, and takes some nourishment, pulse 70, and regular, but weak; gave no medicine.

Sept. 3d. About the same, answers correctly when spoken to, but does not talk, or ask questions. Prescribed a cathartic of calomel and ipecac.

Sept. 4th. After the operation of the cathartic, this morning he aroused to perfect consciousness. He knew nothing about the injury, or any thing that had occurred after it, up to that time. Pulse 65, soft, and full, wound looks well, and is nearly healed; gave no medicine.

Sept. 6th. Removed the stitches. The wound is entirely healed, without a particle of suppuration, pulse natural: 65, soft, full, and regular. He has had no fever, or any inflammatory symptoms; and from that time I discontinued my visits; and his convalescence was rapid and perfect.

The favorable termination of the case just related is, in a measure, due to the great amount of blood that was lost immediately after the injury. In consequence of it, the vital powers were slow in resuming their functions, thereby preventing the occurrence of inflammation. The case shows the advantage in operating in compound comminuted fractures before inflammation supervenes, as well as the feasibility of uniting such wounds by adhesive inflammation. I am well aware that our best authors do not advise us to attempt union by the first intention, but in cases where the wound is a smooth cut, and all foreign substances can be removed, why we should not make the trial, I cannot imagine. For if we fail in accomplishing our object, no harm will be done; or should pus be formed beneath the scalp, we have only to make an opening to let it out, and that will be better than to have the whole wound open.

Although operations are generally advisable in compound comminuted fractures with depression, there are exceptional cases. When there is a slight wound of the scalp, fracture of the cranium, with one or more small pieces of it depressed, which do not irritate the dura mater, it will be best to defer the operation, and use every means in our power to prevent the

occurrence of inflammation; but when in addition, we have the symptoms of compression, an operation should be performed without delay.

Punctured wounds of the head, with or without compression, generally require the use of the trephine immediately. It is difficult to penetrate the cranium with a pointed instrument, without comminuting, more or less, its hard brittle inner table, and if the broken pieces are allowed to remain, they will surely produce inflammation and suppuration of the dura mater, and perhaps, of the brain. Consequently, we ought, as soon as possible after the injury, to remove all loose pieces of bone or other foreign substances, with or without the trephine, as the case may require, whether the brain is suffering from compression or not.

Gun-shot wounds of the head are of a similar character, only more grave, requiring operations on the same principles.

Fractures of the cranium, with or without depression, where there is no solution of continuity of the soft parts, seldom require an operation, where there is no compression. Authors agree now a days, and experience has demonstrated, that when the cranium is fractured, and even comminuted and depressed to some extent, without injury or laceration of the scalp, that operations are not advisable, unless there is serious compression. I have seen many cases, where the cranium was fractured into a number of pieces, and more or less depressed, so that they could be felt moving under the finger, in which, recovery was perfect, without a sign of inflammation. Even though there should be some compression, the same course should at first be followed. But when the symptoms of compression are grave, whether they occur at the time of the injury, or days after, we should proceed to operate.

It occasionally happens that the patient will apparently recover from such injuries with the loss of memory, or some other faculty of the mind. A case in point, came under my observation 20 years or more since:—

A man about 40 years of age, was in a machine shop, watching the revolutions of a cast-iron cylinder, 8 or 10 inches in

diameter. The revolving force was so great that it burst the cylinder, a portion of it was thrown against the upper part of the forehead of the patient, producing a fracture of the os frontis, slightly depressing a piece of the bone, about one and a-half inches square, on the left side of the head, and within half an inch of the mesial line. The scalp was bruised but not lacerated; severe concussion was produced, without compression. He was judiciously treated, to prevent inflammation, and consequently, the vital powers were slow in resuming their functions, and in a few days his mind appeared to be restored. It was soon ascertained, however, that his memory was impaired, but it was supposed that it would be restored as he improved in strength. He would answer correctly when spoken to, but would ask the same questions over and over again. There being no inflammatory action to cause the disturbance of the mind, and as he did not improve at the end of 4 or 5 weeks, an operation was concluded upon; and immediately on raising the depressed bone, he recovered his memory, having no recollection whatever of the injury, or of anything that had occurred after it. That space of time will, probably, always remain a perfect blank to him. It is often the case that the memory is lost for two or three days after severe concussion. I have seen a number of instances of the kind, but in this case the operation demonstrates that the loss of memory was caused either by compression, or by irritation of the depressed bone.

In young children, operations for compression are seldom required. The bones of the head not being fully ossified in children, are more yielding and not so brittle, consequently, not easily fractured. When they are fractured and depressed, there is a resilience which has a tendency to restore them to their normal conditions; besides the brain is gradually enlarging by its natural growth, and the bones not being perfectly formed, will accommodate themselves more easily to the abnormal pressure. Notwithstanding, it occasionally happens that we have to operate on very young children, and I will relate a case in point:—

About nine years ago, when I resided in Akron, Ohio, I was

called to Bristol, Wayne County, Ohio, to operate on a bright little girl, about four years old. She was kicked by a horse on the side of the head, fracturing and depressing nearly one-half of the parietal bone. The child was perfectly insensible, and had been in a comatose state for forty-eight hours, the integuments were lacerated, and the bone partially exposed. I dissected up the scalp, and found a piece of the bone about three inches long, and two inches wide, separated and depressed nearly half an inch at the lower border, and one-fourth of an inch above. I tried my best to raise the bone without using the trephine, but found it impossible. I then introduced it, in hopes to get under the bone with the lever, so as to replace it, but was foiled. The idea of removing so large a piece of bone from the cranium of a child of her age was terrible, but there was no other hope. I finally made another opening with the trephine, and removed it with smaller pieces, without injury to the dura mater. Upon raising the bone, she at once came to her senses, and in a short time was perfectly conscious; the scalp was brought together and confined by three or four stitches, and she recovered without an untoward symptom. I saw her uncle about two years since, who said that the open space was completely filled with bone, and that her health had been good ever since the operation.

We prove by this case the practicability of removing large portions of the cranium in very young children, when necessary, as well as the recuperative power of nature, in reproducing new bone in such cases.

In regard to the manner of performing operations for injuries of the head, I have very little to say. Those who undertake such operations, should thoroughly understand the principles on which they are conducted, and then by ordinary skill and ingenuity, we are ready to adopt the kind of operation best suited to the particular case. We should, however, be careful in introducing the trephine, or elevating the bone, not to injure the dura mater, and be sure to leave no sharp points, loose pieces of bone, blood, or anything foreign within the wound: its edges then should be brought together, and most authors say,

left to suppurate. But, as before stated, I see no reason why we should not endeavor to heal the wound by the first intention, when practicable. Above all, after operations on the head especially, antiphlogistic course should be strictly pursued, until all fears of inflammation have passed. For, just in proportion as we succeed in combatting inflammatory action, after the brain is relieved from pressure by an operation, will be our success in saving our patient.

ARTICLE II.

COMPLETE RECORD OF THE SURGERY OF THE BATTLES FOUGHT NEAR VICKSBURG, DEC. 27, 28, 29, and 30, 1862.

By E. ANDREWS, late Surgeon of 1st Reg. Ill. Light Artillery, and Professor of Surgery in the Medical Department of Lind University.

A complete record of the surgery of any battle during the present war, is a thing which, heretofore, has seldom been attempted.

Both in the east and the west, the urgency of military movements, and the confusion of battle, have made futile the imperfect attempts at registration adopted, and the vast statistics of the war have slipped forever from our hands.

In the west, the wounded have usually been taken from the Field Hospitals to the Hospital Boats, and by them taken on long river voyages to General Hospitals in our cities. The operations and deaths were not communicated by the field-surgeons to the surgeons of the boats, and the surgery and mortality on the boats were not faithfully furnished to the General Hospitals. The statistics of the Field, the Boats, and the General Hospitals, therefore, are not combined, and no continuous history of the cases can be traced. In this, and in similar ways, have the enormous statistics of almost all our great battles been lost to the profession, and the vast and costly experience of so much blood and death been rendered worthless

for the settlement of the many difficult questions in practical surgery.

It was with intense chagrin that I thus saw the entire loss of scientific results from the bloody battles of Fort Donelson, Shiloh, and the numerous lesser combats in front of Corinth. It is a painful fact, that after these battles the results of the various operations and injuries remained entirely unknown to the original operators, and they gained almost nothing by their experience, except the skill of hand acquired in their manipulations.

For this reason, I resolved at the next large battle in which I should be engaged, to make a determined effort to secure the entire surgical history of the wounded up to the latest period which the circumstances would permit. In this endeavor I have been successful. Owing to the judicious orders of Medical Director, Dr. CHARLES MCMILLAN, the field records were measurably well kept, and by the help of Dr. H. B. WITT, senior assistant-surgeon of the 69th Indiana Infantry, who entered into my plans with great energy, I have been put in possession of the subsequent history of the cases, for the most part, up to the twentieth day after the battle.

Dr. WITT was with the wounded personally up to that time, and displayed great skill and capacity in his operations and management.

I am also indebted to the assistance of Dr. TURNER, the well-known surgeon of the hospital steamer "City of Memphis," for valuable information in completing the record.

The following order will show the arrangements adopted to secure order and efficiency on the field:—

CIRCULAR.

HEAD-QUARTERS RIGHT WING 13TH ARMY CORPS,
ON BOARD STEAMER "FOREST QUEEN,"
December 20th, 1862.

To the end that the Medical Staff of this command may act with the greatest possible efficiency, in the necessary and proper care and treatment of the wounded on the battle field, the fol-

lowing instructions are issued for the guidance of Regimental and Division-Surgeons:—

The present organization of the division gives but one principal medical officer, who is attached to the staff of the general commanding, and upon whom devolves the administrative duties. All other surgeons are relieved from duty with brigades, and will, therefore, be charged only with the care of their own regiments.

Before a battle, the senior surgeons of divisions will select a proper and convenient place to serve as a principal depot and field-hospital; notifying the surgeons of his division and the medical director of its location; and will make such arrangements as shall secure the prompt delivery, by the litter-bearers and ambulances of his division, of the wounded of the command, in order that they may receive immediate attention.

To secure the prompt delivery at the depot, and the immediate necessary attention, the hospital service will be systematized as follows:—

Division-surgeons will direct all ambulances belonging to the division to report to them at once, so soon as an action is deemed imminent, and will proceed to fit up their depot, asking for that service, for a sufficient detail under the charge of a competent lieutenant from the division commander. This detail should be made from the regiments, and should be large enough to furnish two men to each ambulance, in addition to the driver, who should not leave his team. These should not be boys and worthless old men; but strong, brave, and efficient ones. They will be distinguished by a strip of white bandage tied around the arm above the elbow; and no others shall be permitted to leave the ranks and carry wounded to the rear. The bands will assist in pitching tents and preparing shelter, and fuel, fires, and nourishment for the wounded. And these, with the above-mentioned detail, shall be placed under the charge of an assistant-surgeon, who shall be selected for the superintendence of this department of hospital duty.

Furthermore, the Hospital shall be organized as follows:—

Three principal operators shall be selected from the Medical

Staff of the Division-Surgeon; and they, under the direction of this senior medical officer, shall decide upon and perform all principal operations. They will be selected without reference to rank, but solely for the requisite qualifications and experience. Each operator shall have one assistant, to be selected in the same manner. One efficient assistant shall be selected to keep the records of the depot, and another to attend as above mentioned, to the providing of food, shelter, &c. It is understood that one assistant-surgeon with his hospital steward and attendants, shall accompany the regiment to which he is attached to the field, and select and station himself at a convenient and safe place in the rear, to which the wounded may be first brought from the ranks, where temporary dressings may be applied, and where the ambulances may collect them for transmission to the hospital or principal depot. He should be relieved, if the action continues, by another, that justice be done to all and each. All the medical officers should immediately report at the principal depot of their division, and assist in the general care of the wounded.

The division trains being usually posted in a secure place, and at generally too great a distance to make resort to the regimental medical stores in the wagons available; the medicine wagons, pannier sets, and hospital knapsacks, should be reserved with the ambulances before the commencement of an action, from the Quarter-Master's train, and used for the occasion as necessity may require. The knapsacks, as above mentioned, and the medicine wagons and pannier sets, with the proper proportion of instruments to be placed under the orders of the surgeon in charge at the principal depot. Care should be taken that the supplies of chloroform, ether, and stimulants are present and available.

Beef should be obtained at once, and with the stores of farina, tea, &c., the wounded can at once be nourished and made comfortable. Such cooks as shall be selected, shall be ordered to the principal depot; and such attendants as are not needed by the surgeon in the field, will assist in the care and nursing of the wounded.

Prompt and careful compliance with these instructions, it is hoped, will secure to our brave officers and soldiers who may be wounded in the battles which may follow, such care and treatment as they nobly deserve; and such as their much sacrificing friends at home have just right to expect.

(Signed.) CHAS. McMILLAN,
Medical Director, Right Wing 13th Army Corps.

By this arrangement it will be seen that one assistant-surgeon accompanied each regiment under fire, to attend to such injuries as might require instantaneous attention. The wounded were thence taken to division depots about 200 yards from the line of battle, for full examination, and at these depots all principal operations were attended to. Three surgeons were appointed operators in each division, and by them all serious operations were performed. One assistant-surgeon was appointed at each depot to make record of the name, company, regiment, injury, operation, and name of the operator of each patient brought in.

Being appointed one of the operators, I had opportunity to know that the recorder of my division, (Dr. BROWN, 113th Ill. Infantry,) was very careful and thorough in his notes, and I now have his original field-registar before me for my guidance. The following order shows the arrangements adopted in the 2d division, which was substantially like those in the others:—

CIRCULAR.

HEAD-QUARTERS 2d DIVISION, RIGHT WING 13th ARMY CORPS,
ON BOARD STEAMER "CHANCELLOR,"
December 25th, 1862.

In accordance with Circular bearing date December 20th, 1862, the following named medical officers have been selected, and will act in the particular position here assigned to them in case of a battle. The following named medical officers are selected as principal operators at division hospital:—

E. Andrews, Surgeon,	.	1st Ill. Light Artillery.
E. O. F. Roler, "	.	54th " Infantry.
G. S. Walker, "	.	6th Mo. "

For assistants to same:—

D. W. Carlin,	Surgeon,	57th Ohio.
J. R. Bailey,	"	8th Mo.
C. P. Brent,	"	54th Ohio.

Recorder for Division Hospital:—

L. C. Brown, 1st Assistant-Surgeon, 113th Ill.

To take charge bands, cooks, &c., for preparing food, shelter, and fuel at division hospital:—

H. C. Vinsen, 2d Assistant-Surgeon, 83d Ind.

The following Medical Officers will report at division hospital for duty:—

I. N. Heckalmann,	1st Assistant,	116th Ill.
L. Davis,	Surgeon,	83d Ind.
J. R. Gore,	"	127th Ill.
Wm. Turner,	Assistant-Surgeon,	1st Ill. Artillery.
James M. Mack,	Surgeon,	113th Ill.

The following named Medical Officers will accompany their regiments into action, each having under his charge the hospital stewards and all other hospital attendants, except these that may be detailed for duty at the division hospital. The hospital steward will carry the knapsack filled with such articles as may be necessary for immediate use. Medical officers will give their personal attention, and see that their medical supplies are at division hospital:—

E. M. Joslin,	1st Assistant-Surgeon,	6th Mo.
Ivlus Brown,	"	8th "
J. Baygo,		54th Ohio.
S. L. Harper,		55th Ill.
A. C. Messenger,		57th Ohio.
W. Gillispi,		83d Ind.
W. N. Bailey,		113th Ill.
J. A. W. Hartiller,		116th Ill.
G. P. Anthony,		127th "
I. Huss,		13th U. S. A.

D. W. HARTSHORN,
Medical Director, 2d Division.

The ambulances were worked in two sections: one portion bringing the wounded from the front to the depot, and the other taking them away, after the wounds were dressed, to the hospital boats.

In this way the wounded were all attended to without confusion, and most of the time without haste, and with few exceptions, the injured of each day were safely lodged on the hospital boats the same night. I must do the operators also the justice to say that they performed their duty well, avoiding with good judgment the two extremes of reckless slashing and dangerous ultra conservatism. A few of the assistant-surgeons who were sent under fire, became so exhilerated at the music of the bullets, as to expose themselves to an unnecessary amount of danger, but not a man of them proved cowardly.

After the battle, the fleet left for the mouth of White River, Arkansas; and from thence the wounded were taken to Memphis, afterwards to St. Louis. In all these movements about twenty days were consumed, which is sufficient to show the probable results of the operations. My record closes in most cases with the nineteenth and twentieth days after the battle, when the cases were turned over to General Hospital in St. Louis. The followiug table contains the particular cases and results, and therefore, are the basis and proof of the remarks, and conclusions following them; and it is peculiarly gratifying to me that at length we are able to bring the maxims of military surgery to the corrective test of a large collection of facts, obtained on the western fields:—

Tabular View of the Wounds and Surgical Operations of the late Battles near Vicksburg, on the 27th, 28th, and 29th of December, 1862, with Addenda from other Western Battles.

WOUNDS OF THE HEAD.

Case.	Name.	Regiment.	Injury.	Operation.	Anæsthetic.	REMARKS.
1	N. A.	49 Indiana	Shot in mouth	Ball not extracted	None	Very weak 15th day
2	G. B.	16 Ohio	Shell wound of back of head, right side	None		Left leg paralyzed
3	S. M.	54 Indiana	Shell wound, left eye and temple	"		Had erysipelas,—better
						Doing well 15th day
4	J. H.	6 Missouri	Eye injured	"		do do
5	S. B. M.	54 Indiana	Severe scalp wound, right side	"		Worse 16th day
6	W. J.	16 Ohio	Scalp wound, left side head	"		Doing well 16th day
7	A. H.	6 Missouri	do top of head	"		do
8	H. C.	83 Indiana	do back of head	"		do
9	J. S.	4 Iowa	Bullet entered left side of mouth	Bullet not found		do
10	J. R.	6 Missouri	Scalp wound, top of head	None		do
11	W. F.	42 Ohio	Shell wound of forehead	"		do 17th day
12	J. W.	do	Contusion of temple	"		do
13	W. W. F.	54 Indiana	Bullet enter'd below right ear, passed out back of neck	"		do
14	W. W. R.	16 Ohio	Bullet pierced nose, shattered palate bone, and passed into region of fauces	Bullet extracted		do 18th day
15	S. R.	do	Scalp wound, top of head	None		Erysipelas, doing well 18th
16	G. V. S.	54 Indiana	Ball enter'd mouth, knock'd in front teeth	Bullet not extracted		Secondary hemorrhage 11th day. Check'd with persulph. iron; doing well 17th day
17	A. D.	do	General concussion by shell	None		Doing poorly 17th day
18	T. B.	29 Missouri	Shell wound, destroyed right eye	"		Doing well 18th day
19	W. B. A.	30 Iowa	Shell wound, side of head	"		
20	A. W. B.	4 do	Ball entered mouth, passed out under left ear	"		Not doing well 18th day Doing well 18th day

Case	Name.	Regiment.	Injury.	Operation.	Anæsthetic.	Remarks.
21	E. A. G.	57 Ohio	Shell wound, right temple	None		Doing well 20th day
22	M. B.	114 do	Compound fracture of skull	"		Died 12th day
23	J. H. E.	54 Indiana	Shot in face	"		do 7th day
24	McE. K.	49 do	do cranium	"		do 1st do
25	J. H.	16 Ohio	do do	"		do
26	E. S.	do	do do	"		do 13th day
27	P. S.	83 Indiana	Wound of ear	"		
28	J. H.	do	Comp. fracture frontal bone, dura mater not opened	Removed loose fragm'ts bone	None	
29	W. W.	6 Missouri	Shell wound, right temple	None		
30	W. McK.	54 Ohio	Bullet entered brain through right eye	"		
31	J. S.	13 Regulars	Scalp wound	"		
32	M. A.	6 Missouri	Compound fracture of lower jaw	"		
33	G. C.	16 Ohio	Slight scalp wound	"		Returned to duty
34	S. W.	do	do wound of cheek	"		Doing well 10th day
35	C. W. J.	54 Indiana	do do	"		do
36	P. B.	do	Scalp wound	"		do 8th day

Addenda from notes of other Western Battles.

37	J. J.	8 Iowa	Comp. fr. of skull. Deep depression: compression of brain	Trepanned 9th day	None	Had erysipelas; died 10th day
38	F. A.	17 Illinois	Shot in sup. max. bone	None		Exfoliation of bone, recover'd
39	B. C.	6 Ill. Cav.	6 buck-shot in face, one penetrating brain	"		Died 5th day

To the above should be added eleven slightly wounded cases, who were returned to their Regiments. Total, 50.

WOUNDS OF THE NECK, TRUNK, AND SHOULDER.

1	C. S.	22 K'ntucky	Flesh wound, abdominal wall	None	None	Doing well 20th day
2	J. H. D.	do	Upper lobe of left lung	"	"	do
3	C. M.	16 Ohio	Shot thro' breast above and internal to nipple, ball came out the back	"	"	do
4	J. D. H.	do	Flesh wound of shoulder	"	"	Doing badly 15th day
5	S. S.	49 Indiana	do	"	"	Very weak do
6	B. F. M.	do	Bullet through left chest	"	"	Doing well do
7	T. W. S.	16 Ohio	do left lung, air escaped	Ball cut out below scapula		do
8	H. A. D.	114 Ohio	Shell wound of back	None		do
9	J. P. L.	54 Indiana	do and hip	"		Parts below paralyzed
10	J. H. H.	do	do left side of neck	"		Doing toler'y well 15th day
11	A. B.	16 Ohio	Ball entered left side of neck, below ear, and escaped over rt scapula	"		Doing well 16th day
12	G. S.	42 do	Shell wound of back	"		Doing toler'y well 15th day
13	J. E.	29 Missouri	Ball passed thro' right chest and arm	"		Doing well 15th day
14	D. P. V.	54 Indiana	Flesh wound left side of neck	"		do
15	B. F. S.	13 Illinois	do shoulder	Ball not extracted		Doing toler'y well 15th day
16	W. S.	42 Ohio	Contusion of back	None		No better 16th day
17	H. S.	54 Indiana	do breast by shell	"		Pain in breast 16th day
18	G. S.	31 Missouri	Flesh wound, left shoulder	"		Doing well 16th day
19	R. D.	16 Ohio	Wound, penetrating left side	"		Doing badly do
20	H. M.	49 Indiana	Flesh wound, shoulder	"		Doing well do
21	A. B.	do	do side of neck	"		do
22	G. C	22 K'ntucky	do right shoulder	"		do
23	J. W.	25 Iowa	Bayonet wound of shoulder	"		do
24	H. L.	22 K'ntucky	Ball passed across front of neck, anterior to arteries	"		do
25	R. V. L.	16 Ohio	Flesh wound, ball glided around on rib of left side, beneath the skin	"		do 17th day
26	M. B.	7 Mich. Bat.	Flesh wound of back, over 6th rib	Bullet cut out		do
27	J. McD.	do	do abdomen, by cannister, not penetrating cavity	Iron shot cut out on 9th day		do
28	C. W. H.	31 Missouri	Flesh wound, right shoulder	None		do

Case.	Name.	Regiment.	Injury.	Operation	Anæsthetic.	Remarks.
29	H. S.	29 Missouri	Flesh wound, right shoulder	None		Doing well 18th day
30	A. Y.	28 La.	Bullet entered near shoulder	Cut out near spine		Erysipelas on 17th day
31	J. P.	13 Missouri	Right lung penetrated	None		Doing well 20th day
32	R. W.	4 Iowa	Flesh wound, left side	Ball cut out from back		do 18th day
33	J. M.	6 Missouri	do both shoulders	None		do
34	S. C.	13 do	do right shoulder	Ball extracted		do
35	H. R.	6 do	Shot through left breast	" at left scapula	None	Not doing well 18th day
36	O. C.	29 do	do right breast	None		Doing well 18th day
37	J. J.	54 Ohio	do lung	"		do
38	F. T.	29 Missouri	do lower end of spine	"		do
39	J. E.	do	Flesh wound, left shoulder	"		do
40	C. G.	13 Illinois	Ball entered near shoulder and passed out by 12th rib	"		do
41	O. P. W.	do	Shot through right upper lung	"		do
42	J. S.	do	Fracture of right shoulder	"		do
43	H. G.	do	Ball entered near scapula	Ball cut out		do
44	F. Z.	31 Missouri	Flesh wound, trunk	None		do
45	M. M.	6 do	do	"		Not doing well 18th day
46	A. D. W.	13 Illinois	Flesh wound, back	"		Doing well 18th day
47	S. A. D.	4 Iowa	do left shoulder	"		do
48	M. C.	13 Regulars	do back	Ball extracted	None	do 20th day
49	F. L. M.	4 Iowa	do side and hip	None		do
50	F. S.	6 Missouri	do side and back	"		do
51	E. E. A.	31 do	do neck and shoulder	"		do
52	W. F. C.	55 Illinois	do shoulder	"		do
53	A. B. C.	42 Ohio	Shot in left shoulder	"		Died 7th day
54	J. K.	54 Indiana	do head, breast, and leg	"		do 1st day
55	G. H.	16 Ohio	Flesh wound, right shoulder	"		
56	C. F.	28 La.	Shot through right breast	"		Rebel, died 12th day of pneu.
57	W. R.	49 Indiana	Penetrating wound in side	"		Died 7th day
58	A. W. C.	42 Ohio	do breast	"		do 6th day
59	B. B. D.	40 Indiana	do abdomen	"		do 1st day

60	W. M.	1 Wis. Bat.	Penetrating wound in abdomen	"		do
61	J. C. H.	22 K'ntucky	Body and arm	"		do 12th day
62	M. R.	54 Indiana	Right lung shot through	"		do 8th day
63	C. B.	13 Illinois	Shot in the right lung	"		do
64	J. T.	22 K'ntucky	Ball entered chest, through left shoulder	"		do 6th day
65	P. W. E.	16 Ohio	Ball entered side, through arm	"		do
66	A. J.	54 Indiana	Shot in breast	"		do 12th day
67	R. P.	22 K'ntucky	do right breast	"		do 5th day
68	A. M.	54 Indiana	do shoulder and foot	"		do 9th day
69	T. M.	114 Ohio	do side and back	"		do
70	R. S.	3 Kentucky	do side	"		do 12th day
71	S. H.	57 Ohio	Flesh wound, neck			
72	G. R. R.	83 Indiana	Shot through left shoulder	"		
73	E. W.	do	Bullet penetrating left lung	"		Died 1st day
74	J. B.	127 Illinois	Flesh wound, right shoulder	"		
75	F. H.	54 Ohio	Contusion of epigastrium by shell	"		
76	C. R.	do	General concussion by shell	"		
77	W. H.	do	do	"		
78	E. V.	do	do	"		
79	J. D. P.	do	Contusion of body by shell	"		
80	R. L. V.	6 Missouri	Ball penetrated abdomen near naval	"		
81	R. W.	54 Ohio	Contusion from spent ball on chest	"		Died
82	J. S.	13 Regulars	Bullet pierced right lung	Ball extracted		
83	J. S.	6 Missouri	do flesh of back	" cut out at shoulder	None	
84	A. B.	13 Regulars	do pierced right lung	" " " of back	"	
85	Y. F. D.	6 Missouri	Contusion of back from shell	None	"	
86	M. C.	do	Flesh wound, back of neck	Ball extracted		
87	J. F.	do	Bullet entered back and pierced left lung	" not extracted		
88	M. C.	do	Flesh wound, pectoral muscles	None		
89	Col. B.	do	Contusion, left shoulder	"		
90	T. S.	do	Bullet pierced right lung	"		
91	J. D.	do	Ball entered back and pierced left lung	"		Died
92	M. McN.	do	Shot in left lung	"		
93	J. M.	do	do abdomen	"		

Case.	Name.	Regiment.	Injury.	Operation.	Anæsthetic.	Remarks.
94	H. H.	do	Flesh wound in back	"		
95	E. Z.	do	do right shoulder	"		
96	J. S.	do	Shot in abdomen	"		Died
97	W. S.	22 K'ntucky	Contusion of shoulder	"		Returned to duty
98	B. S	16 Ohio	General concussion	"		do
99	W. A.	54 Indiana	do	"		Nearly well 8th day
100	J. D.	do	do	"		Returned to duty
101	M. C. H.	do	do	"		do
102	R. M. C.	42 Ohio	do	"		do
103	J. S.	120 do	do	"		do
104	A. J.	do	do	"		do
105	E. B.	13 Illinois	Shell wound, perforating intestine	"		Died 8th day

Addenda from notes of other Western Battles.

106	J. C.	8 Missouri	Shot thro' abdomen, piercing colon	Bullet cut out from back	None	Died 4th day of peritonitis
107	M. W.	6 do	Large piece of shell in lumber muscle	Extracted	"	Result unknown
108	C. H. C.	do	Bullet passed thro' right arm into thorax	None		do
109	S. S.	4 Ind. Bat.	Shot thro' left shoulder, frac. of clavicle	Extracted fragments	Chlor.	Doing well 14th day
110	J. H.	Servant	Stab'd in abdomen, cutting small intestine	Intestines sewed up with interrupted sutures & return'd		Recovered readily; had hernia some months after
111	J. B.	40 Illinois	Bullet pierced thorax	Extracted	Chlor.	Recovered
112	B. D.	do	do fracture of 7th rib	Resected rib	"	do
113	A. A.	46 do	Compound fracture of scapula	Extracted fragments	"	do
114	— D.	40 do	Ball enter'd r. thorax, ext'nsive emphysema	Tapped	None	do
115	S. S.	do	Shot in left shoulder, and frac. of 1st rib	None		do
116	O. E.	do	Comp. fracture of scapula,—grapeshot	"		Unknown
117	S. H.	Unknown	do head of humerus, thorax pierc'd	"		Died 9th day of 2d hæmorr
118	M. L.	41 Illinois	Flesh wound of neck	"		Recovered
119	J. B.	6 do	Stab'd in abdomen, viscera not wounded	"		do
120	R. N.	Servant	Stabbed, cutting subscapular artery	Cut down and tied	Chlor.	do

121	A. B.	Contraband	Pistol-shot in lung, by his master	None		Died 10th day
122	C. C.	do	Shot in shoulder, by his master	do		Recovered
123	C. S.	do	do hip do	Extracted ball		do
124	S .	6 Ill. Cav	Shot in arm and breast, flesh wound	None		do
125	——	do	Flesh wound in breast by buckshot	do		do
126	——	do	do side do	Extracted		do
127	——	do	do do do	do		do

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With these should be reckoned forty-seven slight cases wounded at Vicksburg, who were not disabled, and remained with their Regiments. Total wounds of Neck, Trunk, and Shoulder, 174.

WOUNDS OF ARM.

1	C. S.	42 Ohio	Fracture of head of humerus	Resection on the field	Chlor.	Doing well 20th day
2	W.W.W.	54 Indiana	Flesh wound near elbow	None	None	Has fever 20th day
3	C. G.	16 Ohio	do right arm	do	do	Tolerably well 15th day
4	G. C.	30 Missouri	Shell wound of arm, very bad comp. frac.	Primary amputation	Chlor.	Doing well 15th day
5	J.C.McC.	49 Indiana	Compound fracture head humerus	None		do
6	W. F. P.	69 do	Ball entered top shoulder, passed 4 inches down arm	Ball extracted		do do
7	J. E.	22 Kentucky	Compound fracture, left arm	None		do do
8	R. W.	54 Indiana	Bad flesh wound, right arm	do		do do
9	E. F. T.	do	Flesh wound	do		Doing well 16th day
10	B. B.	16 Ohio	do both arms	do		do do
11	F. C. M.	13 Illinois	do left arm	do		
12	C. A. B.	do	do right arm	do		
13	M. G.	58 Ohio	do do	do		
14	W. M. B.	22 Kentucky	do do	do		
15	C. G.	16 Ohio	do arm	do		
16	S. S. J.	54 Indiana	Compound fracture, humerus	Secondary amput. at upper 3d	do	do 17th day
17	E.O.G.R.	16 Ohio	Flesh wound, middle of arm	None		do 18th day
18	H. J. R.	114 do	Flesh wound, ball enter'd arm and pass'd out at shoulder	do		
19	P. H.	16 do	Flesh wound, upper part of arm, injuring artery. 2d hæmor. & gangrene 11th day	Ligated subclavian 11th day, amputated arm	do	Recovered

Case.	Name.	Regiment.	Injury.	Operation	Anæsthetic.	Remarks.
20	W. S.	127 Illinois	Compound fracture head of left humerus	Excision on field	Chlor	Doing well 18th day
21	W. A.	58 Ohio	do do of humerus	Primary amp. shoulder-joint	do	do do
22	A. H. T.	4 Iowa	do do do	Resection of shoulder	do	do do
23	W. J. C.	do	Flesh wound left arm and breast	None		do do
24	Z. B. F.	13 Illinois	Compound fracture right humerus	do		do do
25	J. S.	do	do do do	do		do do
26	R. A. L.	83 Indiana	do do left humerus & radius	Bullet and pieces of bone cut out by deltoid muscle	do	do do
27	J. A. H.	13 Illinois	do do humerus	Amputation at shoulder-joint	do	do do
28	G. W. D.	4 Iowa	do do do	High amputation on field	do	do do
29	D. A. C.	29 Missouri	do do do	Amp. near shoulder on field	do	do do
30	L. H. E.	6 do	do do do	Shoulder resected on field	do	do do
31	S. G.	13 Illinois	do do do by shell	Primary amputation	do	do do
32	W. B.	55 do	do do do bad	None		do 20th day
33	H. V.	22 Kentucky	do do do	Amputation at shoulder-joint	do	Died 9th day
34	J. P.	do	do do right arm	None		do 7th do
35	G. W. F.	57 Ohio	do do do by shell	Primary amp. at lower 3d	do	
36	W. B.	55 Illinois	do do humerus	Bullet cut out	do	
37	S. B. C.	13 Regulars	do do do	Resection of shoulder	do	
38	— I.	6 Missouri	Flesh wound right arm	None		
39	J. H.	54 Indiana	do do slight	do		Nearly well 12th day
40	E. B. P.	do	Compound fracture arm	Primary amputation	do	Doing well 6th day
41	J. R.	do	do do do	do do	do	do do
42	H. C. B.	16 Ohio	Flesh wound arm	None		do do
43	J. J.	Unknown	Compound fracture humerus	Amputation shoulder-joint	do	Doing well 28th day

Addenda from notes of other Western Battles.

44	C. V.	do	do do do	do do	do	do 15th day
45	C. S.	do	do do do	do do	do	Died 4th day
46	S. S.	do	Arm torn off at the shoulder by shell	No amputation, artery tied	None	do
47	S. W.	8 Missouri	Comp. fracture head of humerus & lo. jaw	Resection of shoulder-joint	Chlor	Recovered

48	C. C. M.	40 Illinois	Flesh wound right arm	None		do
49	S. S.	6 Ill. Cav.	do do do	Extracted buckshot	None	do
50	H. R.	do	do do do	od do	do	do

With the above should be reckoned 18 slight wounds of the arm, from the Vicksburg Battles, which remained with their Regiments and all recovered. Total injuries of the Arm, 69.

WOUNDS OF ELBOW.

1	J. I.	42 Ohio	Left elbow-joint opened	None	——	Arm cons'ly swollen 15th day
2	J.McH.	49 Indiana	Flesh wound elbow	do		Doing well 16th day
3	T. G. C.	54 do	Contusion from cannon ball	do		do do
4	F. E. L.	7 Mich. Bat.	Shell wound right elbow	do		Erysipelas, better on17th day
5	J. H.	13 Illinois	Bullet through right elbow	Amputation of arm on field	Chlor.	Doing well 18th day
6	M. H.	do	Comp. frac., right elbow	None		do do
7	F. M. S.	6 Missouri	do also flesh w'd. in neck	Resected elbow-joint	do	do do
8	J. H.	83 Indiana	Comp. fracture elbow-joint	None		
9	E. A.	116 Illinois	Comp. fracture left elbow-joint	Amputation of arm	do	
10	P. H.	16 Ohio	do right do	do do	do	do 6th day

Addenda from notes of other Western Battles.

11	D. D. D.	8 Missouri	Comp. fracture right elbow-joint	Excision of joint	do	Recovered
12	E. B.	55 Illinois	do do do	do do	do	Doing well 16th day
13	W. M.	Unknown	do do do	Joint excised 8th day	do	Died same day
14	G. W.	40 Illinois	do left do	Extracted fragments	do	Recovered, on duty

Total injuries of the Elbow, 14.

WOUNDS OF FORE-ARM.

1			Flesh wound ball lodged between radius and ulna near elbow	Extracted 12th day	Un'n'd	Had erysipelas doing better prospect good on 20th day
2	G.W. H.	16 Ohio	Flesh wound	None	None	Doing well 15th day
3	A. R.	do	do	Ball not extracted	do	Erysipelas on 15th day
4	S. J. H	49 Indiana	Bullet passed between radius and ulna	None	do	Tolerably well on 15th day
5	C. F.	16 Ohio	Compound fracture of ulna	do		Doing well 16th day
6	J. T. B.	42 Ohio	Flesh wound, ball entered near wrist and passed out above elbow	do		do do

Case.	Name.	Regiment.	Injury.	Operation.	Anæsthetic.	Remarks.
7	D. T. D.	22 K'ntucky	Flesh wound right fore-arm	None		Fever on 16th day
8	H. A. B.	do	do left fore-arm	do		Doing well 16th day
9	S. S.	16 Ohio	do do	do		do do
10	A. S.	29 Missouri	do right fore-arm	do		do do
11	A. S. D.	22 K'ntucky	Compound fracture, both bones	do		Doing well 17th day
12	E. B. P.	54 Indiana	do do by grape	Amputated lower 3d of arm	Chlor.	do
13	J. R.	42 Ohio	Ball lodged in bone	None		Erysipelas [illegible]
14	L. R.	31 Missouri	Flesh wound left fore-arm	Bullet not extracted		Doing well 18th day
15	J. P.	16 Ohio	do right do	None		do do
16	W. W. J.	31 Missouri	Compound fracture right fore-arm	do		do do
17	H. M. B.	29 do	Bullet passed between bones	do		do do
18	J. J. M.	31 do	Flesh wound fore-arm	do		Had erysipelas on face, doing well 16th day
19	J. W.	do	do right fore-arm	do		Doing well 18th day
20	E. E.	116 Illinois	Compound fracture do	Amputation on field	Chlor.	do do
21	H. W. B.	29 Missouri	do do left fore-arm	None		Not doing well 18th day
22	C. M.	6 do	Shell fractured radius	do		Doing well 18th day
23	M. S.	9 Iowa	Flesh wound right fore-arm	do		do do
24	R. A. S.	4 do	do left do	do		do 20th day
25	R. A. S.	13 Illinois	Compound fracture middle of fore-arm	Primary amputation	"	do do
26	G. O.	83 Indiana	do left ulna	None		
27	C. I.	6 Missouri	do ulna by shell	Extracted piece of shell and fragment of bone	None	
28	R. G.	do	Flesh wound right fore-arm	Bullet extracted	"	
29	B. A.	do	do left do	None		
30	A. S.	69 Indiana	Compound fracture fore-arm	do		

Addenda from other Western Battles.

31	J. H.	1st Ill. Art.	Fore-arm blown off	Amputation, middle fore-arm	Chlor.	Recovered
32	J. M.	40 Illinois	Compound fracture, left radius	None		do
33	J. B.	29 do	do	Extracted fragments	"	do

34	J. M.	40 Illinois	Flesh wound, left fore-arm	None			do
35	——	6 Ill. Cav.	Buckshot in right fore-arm	Extracted			do

With the above should be reckoned 8 cases of slight wounds of fore-arm, received in the Vicksburg fights, which remained with their regiments. Total wounds of fore-arm, 43.

WOUNDS OF HAND.

1	Z. M.	34 Indiana	Flesh wound, hand	Nono	None	Doing well 15th day
2	H. A. D.	114 Ohio	Bullet through hand	do	do	do do
3	H. C. B.	16 Ohio	Compound fracture of wrist by shell	do	do	Doing toler'y well 15th day
4	G. D. C.	54 Indiana	Ball fract'd 2d finger right hand, entered centre left hand, pas'd out above wrist	Ball cut out above left wrist; finger amputated	Chlor.	Doing well 15th day
5	G. S.	42 Ohio	Flesh wound, fingers	None		do do
6	W. G.	114 Ohio	Fracture of index finger	Amputated	do	do do
7	D. C. H.	69 Indiana	Flesh wound, left index finger	None		do do
8	E. R. C.	do	Comp. fracture of all fingers of 1 hand	Amputation of all 4 fingers	do	Hand ulcerated 15th day
9	W. S.	42 Ohio	do 2 fingers	do on the field	do	Doing well 15th day
10	G. S.	22 Kentucky	do ring finger	do do	do	do 16th day
11	J. D.	54 Indiana	do index finger	Secondary amputation	do	Feverish do
12	J. M.	16 Ohio	do do	Primary do	do	Doing well 16th day
13	D. D.	do	Fingers of right hand destroyed by shell	Secondary do	do	do do
14	J. M. R.	4 Iowa	Left hand	None		do do
15	L. C.	16 Ohio	Right hand	Amputation of thumb	do	do do
16	S. Z.	114 Ohio	Right index finger	Secondary amputation	do	do do
17	A. C.	do	do	do	do	do do
18	N. T.	do	do	do	do	do do
19	A. S. P.	30 Iowa	Wound, right hand	None		do do
20	H. B.	16 Ohio	Wound, left hand	do		do do
21	C. P.	do	Shell wound, right hand	Index finger amputated		do do
22	C. M.	58 Ohio	Right hand	None		do do
23	J. F.	114 Ohio	do	do		Doing toler'y well 15th day
24	W. Z.	do	Fracture of 2 fingers	Secondary amputation	do	Doing well 15th day
25	G. S.	16 do	do left ring finger	Amputated	do	do 17th day
26	M. L.	7 Mich. Bat.	Flesh wound, left hand	None		On duty 17th day

Case.	Name.	Regiment.	Injury.	Operation.	Anæsthetic.	Remarks.
27	J. T.	54 Indiana	Fracture of all fingers on left hand	Amputated all	Chlor.	Doing well 17th day
28	J. McG.	16 Ohio	Articulation of index finger shot out	No operation		Finger saved
29	A. L.	54 Indiana	Shell wound, right hand	do		Doing well 17th day
30	P. B. F.	55 Illinois	Fracture of two fingers	Amputation of 1	do	do
31	A. R.	29 Missouri	do ring finger, right hand	do	do	do 18th day
32	W. C.	13 Illinois	Shot, left hand	do of hand		Not doing well 18th day
33	G. S.	31 Missouri	do	Nouo		Died 12th day of tetanus
34	J.J.H.Y.	116 Illinois	Compound fracture, 2d metacarpus	Resection of metacarpal; finger afterwards removed	do	
35	J. B.	83 Indiana	Compound fracture, left index finger	Amputation on field	None	
36	A. J. P.	83 Ohio	do right do	do	do	
37	J. H.	55 Illinois	Shot through left hand	None		
38	M. C.	127 Illinois	Compound fracture, thumb	Primary amputation	Chlor.	
39	T. T.	6 Missouri	Shot in left wrist	None		
40	T. C.	54 Ohio	Compound fracture, metacarpus	do		
41	G. C.	116 Illinois	Compound fracture, right index finger	Amputation	do	
42	J. S.	6 Missouri	do left thumb	do	do	
43	F. B.	116 Illinois	do metacarpus, left hand	Removed fragments	do	
44	W. C.	13 Regulars	do left wrist	do	None	
45	C. C. M.	22 Kentucky	Sub-luxation of wrist	Reduced	do	Nearly well 7th day
46	G. C.	16 Ohio	Shot across little finger	None		do 10th day
47	J. V. O.	do	do left index finger	do		do
48	J. M. B.	54 Indiana	do right do	do		do
49	H. M.	120 Ohio	Index finger shot off	Amputation	Chlor.	Doing well 8th day
50	J. S.	16 Ohio	do	do	None	do do
51	E. H.	54 Indiana	Flesh wound, hand, slight	None		do do
52	G. E.	16 Ohio	Compound fracture, finger	Amputated	Chlor.	do do

Addenda from notes of other Western Battles.

53	W. W.	17 Illinois	Flesh wound, left hand	None		Recovered
54	Col. P.	10 do	Compound fracture, left wrist	do		do hand saved

55	B. B.	42 do	Compound fractnre, right metacarpus	Exeised 1 metacarpal bone	Chlor.	do
56	Z. W.	13 Iowa	Flesh wound, right hand	None		do
57	——	6 Ill. Cav.	Buckshot through hand	do		do

With the above should be reckoned about 20 trivial wounds of the hand, received in the fights near Vicksburg, which did not leave the regiment except for one dressing. Total wounds of the hand, 77.

WOUNDS OF HIP.

1	E. H.	49 Indiana	Ball ent'd n'r ant. sup. spin. process of ilium, & travers'd flesh n'r post. sup. spin. process	Ball extracted	Un'kn	Doing well 20th day
2	J. T.	120 Ohio	Shell flesh wound left hip and nates	None		Cannot walk 15th day
3	A. B.	do	Shell wound right hip and back	do		Walks 15th day
4	T. P.	22 K'ntucky	Flesh wound left hip	do		Doing well 16th day
5	J. W.	120 Ohio	do do	do		do do
6	B. F. W.	13 Illinois	do nates	do		do do
7	A. F.	22 K'ntucky	do left groin	do		do do
8	C. S.	do	do left hip	do		do do
9	A. K.	42 Ohio	Ball entered flesh at hip and ran up to arm under the skin	Ball extracted		do do
10	E. P. C.	49 Indiana	Bullet entered above left pubis	Extracted 6 in. right of penis	None	Abseess formed in serotum, doing well on 17th day
11	J. B. W.	16 Ohio	Shell contusion of hip	None		Left leg entirely paralyzed
12	J. S.	54 Indiana	Flesh wound left hip	do		Doing well 17th day
13	B. J. C.	31 Missouri	do do groin	do		do do
14	T. D. D.	30 Iowa	Bullet entered right hip	Cut out middle of thigh		do 18th day
15	T. W. G.	127 Illinois	do left hip and passed out just above knee	None		do do
16	J. G.	29 Missouri	Flesh wound right hip near joint	Not extraeted		do do
17	J. A. V.	31 do	do do	None		do do
18	W. H.	29 do	do left hip	do		do do
19	A. O.	13 Illinois	do right groin	Ball not extracted		Feels well 18th day
20	P. O.	6 Missouri	Hip and leg	None		Doing well 20th day
21	E. T. O.	49 Indiana	Shot in left hip	do		Died 1st day
22	W. A. K.	3 Ill. Cav.	Left groin ranging up	do		do 8th day

Case.	Name.	Regiment.	Injury.	Operation.	Anæsthetic.	Remarks.
23	M. L. S.	Brig. Gen.	Ball pierc'd ala of ilium & lodg'd in canc'lr tissue of brim of pelvis, viscera not wound'd	Ball pried loose and extracted 10th day	Ether Chlor.	Doing finely 26th day
24	H. Z.	83 Indiana	Shell wound of hip, viscera not wounded	None		
25	J. A. B.	54 Ohio	Contusion right hip	do		
26	J. W. M.	13 Regulars	Flesh wound right groin	do		
27	W. R.	6 Missouri	do left hip	Bullet extracted	None	
28	J. N.	do	Contusion right hip	None		
			Addenda from notes of other Western Battles.			
29	J. L.	Unknown	Flesh wound right hip	Bullet extracted	Chlor.	Recovered
30	H. S.	do	do do also of left leg	None		do
31	R. F.	25 K'ntucky	Bladder pierced and both femurs fractured	do		Died 19th day
32	T. S.	Unknown	Flesh wound in groin	do		Recovered
33	J. S. B.	13 Iowa	Ball enter'd cavity of pelvis, viscera unhurt	do		do
34	J. B.	6 Ill. Cav.	Flesh wound, hip	do		do

With the above should be reckoned 7 cases of slightly wounded in the hip at the Vicksburg fights, who did not leave their regiments except for one dressing. Total wounds of the hip, 41.

WOUNDS OF THIGH.

1	W. D. M.	16 Ohio	Flesh wound, thigh	None	None	
2	J. T.	54 Indiana	Right thigh torn off by shell	Amputation on field	Chlor.	Doing very well 15th day
3	H. C. B.	16 Ohio	Flesh wound, right thigh	Nono		do do
4	S. B.	49 Indiana	do do	Ball extracted	None	do do
5	C. W. G.	16 Ohio	do do	do 15th day	do	Had erysipelas; pusburrow'd. Better 16th day
6	J. S.	54 Indiana	do left thigh	Ball not extracted		Doing toler'y well 15th day
7	P. W.	16 Ohio	do thigh	None		Feverish 15th day
8	W. F.	do	do do by shell	do		On duty do
9	J. D.	54 Illinois	do do by bullet	do		Doing well 15th day
10	P. C.	58 Ohio	do right thigh	do		do do

11	M. C.	4 Iowa	do	left thigh	do		do	do
12	C. G.	54 Indiana	do	right thigh	do		do	do
13	T. A.	do	do	left thigh	do		do	do
14	J. W. H.	do	Flesh wound,	right thigh	None		Doing well	15th day
15	S. B.	do	Shell wound,	right thigh and knee	do		do	do
16	J. H. A.	16 Ohio	Flesh wound,	right thigh	do		do	do
17	T. W. F.	13 Illinois	do	left thigh	Ball extracted	None	do	do
18	W. P. C.	22 Kentucky	do	do	None		do	do
19	A. S.	do	do	do	do		do	do
20	C. M.	54 Indiana	do	right thigh	do		do	do
21	R. E.	16 Ohio	do	left thigh	Ball not extracted		do	do
22	J. W. C.	49 Indiana	Severe flesh wound of thigh		2nd'ry hæmor. 7th day from profunda,—tied the vessel; hæmor. again 9th day from femoral, tied that also	Chlor.	do	20th day
23	G. T.	29 Missouri	Flesh wound,	thigh	None		do	17th day
24	A. W.	58 Ohio	do	right thigh	do		do	do
25	B. A.	22 Kentucky	do	thigh	Cut out bullet		do	do
26	S. S.	54 Indiana	do	right thigh	Bullet not extracted		do	do
27	W. W. F.	16 Ohio	do	do	None		do	do
28	J. C.	22 Kentucky	do	do	do		do	18th day
29	M. L.	do	do	left thigh	do		do	do
30	A. D.	16 Ohio	do	thigh	do		do	do
31	H. H.	do	do	left thigh	do		do	do
32	J. Y	do	do	right thigh	do		do	do
33	J. A. R.	do	do	left thigh	do		do	17th day
34	J. S. C.	22 Kentucky	do	do	do		do	do
35	T. S.	83 Indiana	do	thigh	do		do	18th day
36	B. S.	6 Missouri	do	do	do		do	do
37	J. G. M.	13 Illinois	do	do	do		do	do
38	A. E. B.	do	do	left thigh	do		do	do
39	G. W. W.	——	do	both thighs	do		do	do
40	C. J.	8 Missouri	Ball ent'd thigh n'r knee, escap'd from hip		do		do	do
41	C. M. C.	6 do	Comp. frac. left thigh & flesh wound of right		Left thigh amputated on field	do	do	do

Case	Name.	Regiment.	Injury.	Operation.	Anæsthetic.	Remarks.
42	L. H.	6 Missouri	Flesh wound, both thighs	None		Doing well 18th day
43	F. T.	29 do	do right thigh	do		do do
44	J. J. Y.	116 Illinois	do left thigh	do		do do
45	C. H.	13 Regulars	do do	do		do do
46	G. H.	31 Missouri	do thigh	do		do do
47	M. F. B.	13 Illinois	do right thigh	do		do do
48	J. B.	25 Iowa	do left thigh	do		do do
49	A. R.	31 Missouri	do do	do		do do
50	J. S.	do	do right thigh	do		do do
51	G. R.	6 do	do both thighs and scrotum	do		do do
52	S. C.	4 Iowa	do left thigh	do		do 20th day
53	D. L. C.	31 Missouri	do both thighs	do		do do
54	W. McA	13 Regulars	do left thigh	do		do do
55	E. R.	13 Illinois	do right thigh	do		do do
56	A. M.	do	do left thigh	do		do do
57	J. W.	31 Missouri	do do	do		do do
58	G. S.	42 Ohio	do do	do		Died of typhoid fever 12th day
59	J. B. S.	49 Indiana	Compound fracture, thigh	do		Died 13th day
60	G. H.	69 do	Shell wound, both thighs and scrotum	do		Died of pyæmia 10th day
61	P. H.	42 Ohio	Compound fracture, thigh	do		Died 1st day
62	J. C. S.	69 Indiana	do left middle 3rd	do		Died 10th day
63	J. C. I.	114 Ohio	Flesh wound, upper 3rd, thigh, and penis	do		Died 8th day of erysipelas
64	J. W. R.	54 Indiana	Compound fracture, middle 3rd	do		Died 5th day
65	P. F.	57 Ohio	do both femurs, by grape, and left femoral artery cut	do		Died 1st day
66	J. C.	6 Missouri	Flesh wound, thigh and ankle	do		
67	M. S.	do	do do	do		
68	J. M.	do	Contusion, right thigh	do		
69	G. W.	do	Flesh wound, both thighs	Bullet extracted	Chlor.	
70	J. B.	22 Kentucky	do thigh	None		Tendency to gangrene
71	J. M. C.	49 Indiana	Shell flesh wound, both thighs,—bad case	do		

Addenda from notes of other Western Battles.

72	O. S.	Unknown	Comp. fracture, femur, by cannister-shot	Primary ampu., upper 3rd	Chlor.	Died in 24 hours
73	Unkno'n	do	do left femur	do middle 3rd	do	Died 3rd day on boat
74	do	do	do right femur	do upper 3rd	do	Died 4th day do
75	do	do	do femur,—musket	do lower 3rd	do	Alive 14th day
76	E. S. S.	8 Missouri	do left femur: artery destroy'd	do upper 3rd	do	Died 5th day
77	G. B.	do	Compound fracture, middle of femur	Pick'd out fragments, resected ends, put up in splints	Chlor.	Died 4th day
78	R. C.	55 Illinois	do do	do do do	do	Died 3rd day
79	H. H.	6 Missouri	Bad contusion in front of thigh; muscles reduced to pulp	Crucial incision		Alive 14th day
80	S. S. B.	30 Indiana	Ball enter'd top & front of thigh: flesh wn'd	Enlarged opening to search for bullet	None	Died of gangrene 9th day
81	J. McC.	46 Illinois	Compound fracture, upper 3rd femur	Amput. 6th day, at upper 3rd	Chlor.	Died 7th day of shock of oper-
82	H. H.	Unknown	Flesh wound, left thigh	Extracted bullet	None	Recovered [ation
83	C. K.	43 Illinois	Compound fracture, femur, upper 3rd	Amputation, upper 3rd	Chlor.	do
84	D. F.	48 do	Flesh wound, thigh	Bullet extracted	None	do
85	F. R.	12 Iowa	Compound fracture, upper 3rd femur	None		Alive 35th day; bone exfoli.
86	Lieut. C.	Unknown	Comp. frac., neck of femur, by ball; lay 20 hours on field, and froze tips of toes	Long splint applied, and adhesive strap extension		Recovered with shortening; walks about
87	F. H.	40 Illinois	Flesh wound, right thigh	None		Recovered
88	——	70 Ohio	Shot through thigh, wounding femoral artery; secondary hæmor. 10th day	Ligated femoral artery 10th day		do

With these should be reckoned 19 slight cases of injuries to the thigh, received at the fights near Vicksburg, which were returned to their regiments. Total wounds of the thigh, 107.

WOUNDS OF KNEE.

1	R. W.	49 Indiana	Fracture, knee	Ampu. (prim.) lower 3rd thigh	Chlor.	Doing well 20th day
2	C. G.	16 Ohio	Flesh wound	None	None	do passably 15th day
3	D. L.	54 Indiana	Bad fracture by shell	Amputation of thigh on field	Chlor.	do well do
4	F. D.	do	Concussion by shell	None		Joints swollen, walks with crutches 15th day
5	G. M. W.	do	do do	do		Well on 16th day
6	P. H. B.	49 do	Gun-shot, left knee, flesh	do		Erysipelas 16th day

Case.	Name.	Regiment.	Injury.	Operation.	Anæsthetic.	Remarks.
7	P. K.	69 Indiana	Flesh shell wound	None		Doing well 16th day
8	J. A. C.	54 do	Compound fracture by bullet	Primary amputation of thigh	Chlor.	Flap sloughed, bone resawed [illegible] day
9	J. McG.	6 Missouri	Bullet wound, left knee and foot; flesh wound, right foot and leg	2ndary amputation 10th day	do	Not doing well 20th day
10	J. G.	31 Iowa	Flesh wound, knee; joint not opened	None		Doing well 18th day
11	H. R.	13 Regulars	Shot through right knee	Thigh amputated on field	do	do do
12	J. B. M.	127 Illinois	Shell flesh wound inside of knee	None		do 20th day
13	J. N. L.	42 Ohio	Shot through right knee	Primary amputation, thigh	do	Died 6th day
14	E. F. C.	54 Indiana	do do	do do	do	Died without reaction 5th day
15	C. McC.	6 Missouri	do left knee	do do	do	
16	W. S.	13 Regulars	Flesh wound, left knee	None		
17	J. H. L.	42 Ohio	Compound fracture knee	Amputated thigh, lower 3rd	do	Doing well 6th day
18	E. T. C.	54 Indiana	do do	do middle 3rd	do	Died 6th day
			Addenda from notes of other Western Battles.			
19	J. Z. B.	46 Illinois	Compound fracture, knee	No operation		Died 10th day
20	E. V.	42 do	do do	Resection of joint	Chlor.	Recovered

With the above should be reckoned 5 cases of slight flesh wounds of the knee of no importance, and which remained with their regiments. Total wounds of the knee, 25.

WOUNDS OF LEG.

1	P. C.	22 Kentucky	Fracture, tibia	Amputation, middle of leg	Chlor.	Doing well 20th day
2	V. S.	49 Indiana	do do	Amputated upper 3rd on field	do	do do
3	A. V.	42 Ohio	Flesh wound, calf of leg	None	None	Had erysip., d'ng well 15 day
4	S. B.	12 do	Shell w'nd, knee, leg & foot all flesh w'nds	do	do	Doing well 19th day
5	M. H.	54 Indiana	Wound of calf (flesh)	do	do	do 15th day
6	O. S.	22 Kentucky	Flesh wound by shell	do	do	do do
7	Z. M.	34 Indiana	do calf of leg	do	do	do do
8	A. K.	54 Indiana	do do	do		do do
9	J. M.	16 Ohio	do in front of tibia	do		do do

10	L. E. C.	42 Ohio	Bayonet wound in front of tibia	None		Doing well 15th day
11	V. M.	29 Missouri	Flesh wound, calf	do		do do
12	J. B.	54 Indiana	do leg	do		do 16th day
13	F. W.	58 Ohio	do do	do		do do
14	J. A. B.	54 Indiana	do left calf	do		do do
15	H. S.	4 Iowa	do do ankle	do		do do
16	A. H.	16 Ohio	Severe flesh wound	do		do do
17	B. H.	29 Missouri	Flesh wound. left calf	do		do do
18	H. A. K.	13 Illinois	do right calf	do		do do
19	W. A. M.	do	do do	do		do do
20	G. F.	42 Ohio	do left leg	do		do do
21	H. C.	13 Illinois	do right leg	do		do do
22	E. C.	do	do do	do		do do
23	L. S.	22 Kentucky	Compound fracture, left leg	do		Doing toler'y well 16th day
24	J. S.	do	Flesh wound, right leg	do		Doing badly 16th day
25	W. E.	54 Indiana	do leg	do		Doing well 17th day
26	D. G.	42 Ohio	Compound fracture, int. malcolus	do		No improvement 17th day
27	S. L. W.	114 do	Foot torn off by shell	Pr. ampu. at lower 3d of leg	Chlor.	Doing well 18th day
28	T. P.	54 Indiana	Flesh wound, right calf	None		do do
29	M. W. M.	16 Ohio	do left do	do		do do
30	J. D.	54 Indiana	do do 2 balls	do		do do
31	M. K.	58 Ohio	do calf	do		do 17th day
32	J. W. M.	43 do	Shell comp. fracture, left leg & right foot	pr. ampu. mid. 3d, l. leg, r. meta	do	do do
33	W. H.	54 Indiana	Flesh wound, left calf	None		do do
34	A. L.	do	Bullet flesh wound, right leg	do		do do
35	G. F.	31 Missouri	Contusion by shell, right leg	do		Erysipelas 18th day
36	J. B.	17 Missouri	Shell wound, left leg	None		Doing well 18th day
37	D. B. S.	116 Illinois	Bullet wound, calf	do		do do
38	T. W. S.	6 Missouri	Compound fracture, leg	do		do do
39	L. J. Kerr	do	Flesh wound, leg	do		do do
40	H. W.	13 Illinois	Grape-shot, left calf	do		do do
41	P. S.	17 Missouri	Shell wound, left leg	do		do do
42	N. B.	54 Ohio	Compound fracture, both bones	do		do 20th day
43	C. C.	31 Missouri	Flesh wound, left calf	do		do do

Case.	Name.	Regiment.	Injury.	Operation.	Anæsthetic.	Remarks.
44	F. F.	58 Ohio	Shell flesh wound, right leg	None		Doing well 20th day
45	J. W. P.	22 Kentucky	Compound fracture, left leg	Primary amputation	Chlor.	Died of pyæmia 15th day
46	A. R. G.	49 Indiana	Gun-shot, both legs and 1 hand	None		Died 1st day
47	J. C.	do	Compound fracture, left leg	Unknown		do 9th day
48	E. D.	54 do	do do	None		do 11th day
49	A. R.	do	Shot in both legs and shoulder	do		do 7th day
50	W. R.	58 Ohio	Shot in ankle	do		do 11th day
51	C. A.	114 do	Flesh wound, both legs	do	-	do 15th day of tetanus
52	W. N.	13 Regulars	do calf	do		
53	P. O.	6 Missouri	do right leg	do		
54	J. E. B.	120 Ohio	do leg	do		Nearly well 10th day
55	J. A. P.	22 Kentucky	Compound fracture, leg	Primary amputation	do	Doing well 6th day
56	J. T.	54 Indiana	do do	do	do	do do
57	G. W. F.	57 Ohio	do ankle	do leg	do	do do
58	J. M. M.	42 do	do right leg	do do	do	do do
59	R. W.	49 Indiana	do leg	do do	do	do do
60	E. L.	16 Ohio	do left leg	do lower 3d	do	Doing very well 6th day
61	P. S.	49 Indiana	do do	do	do	Doing well 6th day

Addenda from notes of other Western Battles.

62	O. R.	Unknown	Leg taken off by cannon-shot	Flap amputation of thigh	Chlor.	Died 4th day,—no reaction
63	T. S.	do	Flesh wound, right leg	None		Recovered
64	J. McD.	42 Illinois	Compound fracture, left fibula	Resection of fractured part	do	do
65	E. S.	40 do	Flesh wound, left leg	None		do
66	E. B.	21 Missouri	do do	do		do
67	——	6 Ill. Cav.	Buck-shot went thro' leg between bones	Cut out behind the calf	None	do

To the above should be added 12 slight injuries of the leg, received in the battles near Vicksburg, which did not leave their regiments. Total wounds of the leg, 79.

WOUNDS OF FOOT.

1	S. L.	29 Missouri	Head of meatarsus of great toe	Ball extracted 12th day		Doing well 19th day
2	E. L.	16 Ohio	Fracture, ankle-joint	Ampu. lower 3d leg on field	Chlor.	do 20th day
3	T. F. W.	42 do	do second toe	Amputation at base of toe	do	do do
4	G. W. T.	57 do	Foot torn off by shell	do lower 3d leg	do	do 15th day
5	J. W. W.	49 Indiana	Right os calcis crushed	Ball extracted on field	None	Considerable swelling 15 day
6	W. H.	114 Ohio	Flesh wound, 3 toes	None		Had erysip.—better 15th day
7	J. S.	29 Missouri	do sole of foot	do		Doing well 15th day
8	E. T.	22 Kentucky	do left heel	do		do 16th day
9	C. S.	58 Ohio	do do	do		Wearing shoes 16th day
10	W. C. F.	42 do	do left foot	do		Doing well do
11	J. H.	16 do	Gun-shot, left foot	do		do do
12	P. U.	54 do	do 2 toes, left foot	Primary amputation		do do
13	A. J. McG.	29 Missouri	Contusion of right foot by round-shot	None		Very sore do
14	J. C.	22 Kentucky	Grape-shot wound, right foot	do		Doing well do
15	E. S.	31 Missouri	Shell wound, left foot	do		do do
16	C. H.	29 do	do do heel	do		do do
17	J. L. H.	114 Ohio	Compound fracture, right tarsus	do		do do
18	T. K.	22 Kentucky	Wound, right foot	do		Had erysip.—better 16 day
19	J. G. K.	7 Mich. Bat.	Flesh wound, left ankle	do		Doing well 17th day
20	E. W.	54 Indiana	Ball passed through left foot	do		do do
21	J. E.	16 Ohio	Compound fracture, great toe	Secondary amputation		do do
22	C. A.	22 Kentucky	Shot through left foot	None		Erysipelas; doing well 17 day
23	W. C.	76 Ohio	do do	do		Doing well 18th day
24	J. H.	54 Indiana	Shot in right foot	do		do 17th day
25	W. H. M.	do	Shell wound, outer side of left foot	do		do do
26	M. S.	22 Kentucky	Canister-shot, right foot	do		do do
27	J. K. C.	29 Missouri	Shot across toes	do		do 18th day
28	W. B.	4 Iowa	Shell wound, heel	do		do do
29	A. M.	do	Left foot	do		do do
30	T. D.	6 Missouri	Left big toe	Secondary amputation	Chlor.	do do
31	J. E.	29 do	Left foot	None		do do
32	S. C. D.	37 do	Flesh wound, foot	do		do do
33	S. W. W.	13 Illinois	Fracture, foot	do		do do

Case.	Name.	Regiment.	Injury.	Operation.	Anæsthetic.	Remarks.
34	J. N.	114 Ohio	Left heel shot	None		Died of tetanus 12th day
35	E. H.	3 Kentucky	Compound fracture, left foot	Primary amputation, leg	Chlor.	Died of typhoid symp. 11 day
36	T. D.	6 Missouri	Compound fracture, great toe	None		
37	J. B.	51 Ohio	Slight wound, left foot	do		
39	W. J.	16 Ohio	do ankle	do		Recovered early
39	C. J.	do	do do	do		do
40	D. McC.	do	Flesh wound, foot	do		Doing well 8th day
41	F. C.	do	do do	do		do do

Addenda from notes of other Western Battles.

42	A. V. L.	1st Ill. Art.	Comp. frac. of 1st 3 metatarsals, left foot	Extracted ball & fragments	Chlor.	Recovered
43	J. K.	40 Illinois	do of os calcis and astragalus	Resection of fractured parts	None	do
44	J. S.	do	Flesh wound, left foot	None		do
45	M. L.	do	Foot crushed with cannon ball	Amputated on the field	Chlor.	do

To the above should be added 5 cases of trivial wounds, received in the fights near Vicksburg, which remained with their regiments. Total wounds of the foot, 50.

METHOD OF DEDUCTIONS FROM THE ABOVE DATA.

These tables contain a condensed record of 730 wounds. By the arrangements before mentioned, I was able to follow the history of most of these patients for fifteen or twenty days, at the end of which time the question of life or death is usually settled.

In the following pages I shall assume, therefore, that those who at the end of that period seemed to be out of danger, have recovered. The deaths I enter as actually recorded; and the cases which remained critical, or were not heard from, will appear under the head of doubtful. A few errors may thus creep in, but they will not be sufficient to affect our general conclusions.

We will first consider the wounds in relation to the regions of the body affected, noticing the distribution, mortality, and modes of treatment of each species of injury, and subsequently show the conclusions to be drawn from the various surgical operations and their results.

The wounds were distributed through the body in the following proportions:—

Wounds of the	Head,	50
do.	Neck,	10
do.	Trunk, (not including pelvis,)	164
do.	Arm,	69
do.	Elbow,	14
do.	Fore-arm,	43
do.	Hand,	77
do.	Hip,	41
do.	Thigh,	107
do.	Knee,	25
do.	Leg,	79
do.	Foot,	50
Total,		730

Injuries of the Head.

I saw great numbers of these in different battles, of whom, I could obtain no record. My recorded cases are 50 in number,

which were distributed as follows: flesh wounds and contusions 30, fractures of the face 9, fractures of the cranium 5. The small number of fractures of the cranium results from the following causes: 1st, many wounded in the brain die on the spot, and never appear before the surgeon; 2d, the face lying in front of the cranium, often shields it; 3d, many bullets striking the cranium obliquely, glance off, merely plowing the scalp. Of these 5 fractures, 2 were from bullets penetrating the brain, and 3, from pieces of shell or oblique bullets. They all died without exception; only 1 was trepanned, and he, without benefit. The general result in military surgery is, that gun-shot fractures of the cranium are fatal, and that trepanning is very seldom useful. In penetrating wounds of the brain, the bullet drives before it numerous fragments of bone, hair, clothing, etc., which lodge in the cerebral substance, and occasion hopeless inflammation. A few unrecorded cases of recovery, however, came to my knowledge, and it is worthy of notice that these were, without exception, wounds of the anterior lobe of the brain, which, for some reason seems to sustain injury with less mortality than any other part.

Of the 9 fractures of the face, 5 recovered, 1 died, and 3 remained in a doubtful state. Bullet wounds in the bones of the face are somewhat prone to be followed by secondary hæmorrhage.

Of the 30 flesh wounds, 16 recovered, 4 died, and 10 remained doubtful. Of the entire 50 wounds of the head, of all kinds, 26 recovered, 10 died, and 14 remained uncertain.

Wounds of the Neck.

These were 10 in number, and were all flesh wounds; 6 recovered, and 4 remained in doubt. Wounds of the large vessels, and fractures of the cervical vertebræ, usually die on the field, at once, without coming to the notice of the surgeon.

Wounds of the Trunk.

Under this head I include the shoulder, but reserve the hips for a separate consideration; as thus considered, the wounds of the trunk were 164 in number; 36 penetrated the lungs, 10

pierced the cavity of the abdomen, 31 were flesh or fracture wounds of the shoulder, and 87 were flesh wounds of various regions, or fractures of ribs, not penetrating any cavity.

Of the 36 wounds of the lung, 12 recovered, 18 died, and 6 were uncertain.

Of the 10 wounds penetrating the cavity of the abdomen, 2 were stabs, and 8 gun-shot wounds. The stabbed cases both recovered; but of the 8 bullet-wounds, 6 died, and 2 remained in doubt. There was very little hope of them, however; and they should, probably, all be reckoned as dead. With very few exceptions, bullet wounds into the abdominal cavity are all fatal. It may be a question worthy of serious thought, in view of the hopelessness of our present practice, whether we ought not to cut boldly into the abdominal cavity, wash out the filth, and bringing the wounded intestine to the surface, endeavor to produce an artificial anus.

Of the wounds of the shoulder, 31 in number: 20 recovered, 2 died, and 11 remained in doubt.

The 87 superficial wounds of the trunk all recovered.

Of the total number of those wounded in the trunk and shoulder, 20 died, 142 recovered, and 2 were doubtful.

Wounds of the head, neck, and trunk, from their nature, seldom admit of much surgical assistance; taken as one class, they present a mortality of about 20 or 30 per cent; which may be somewhat diminished by good care, or horribly increased by bad air in a crowded hospital; but can be little affected by operative measures, except in a few instances.

Wounds of the Arm.

The very opposite is true, however, of the wounds of the extremities; here the skill and sound judgment of the operator are of immense value, and the correctness or error of his measures will produce vast changes in the ratio between mortality and recovery.

Of wounds of the arm, my records show 69 cases, of which, 28 were compound fractures of the humerus, and 41 were flesh wounds. The flesh wounds all recovered; of the factures, 21

recovered, 4 died, and 3 were in doubt. In 6 of the fractured cases, the shoulder-joint was resected; of which, 5 recovered, and 1 died. In 6 others, amputation was performed at the shoulder-joint; of which, 4 recovered, and 2 died. In 8 cases, amputation of the arm was performed; of which, 7 recovered, and 1 is unknown. In 8 cases, no operation was performed, and the fracture was treated with splints: of these, 7 recovered, and 1 died.

The ratio of mortality in all the gun-shot fractures of the humerus is 1 in 7. The question of the grounds of choice, between resections and amputations of the extremities, will be discussed below, under the head of operations.

Wounds of the Elbow.

Of these, 4 were flesh wounds, of which, 2 recovered, and 2 are unknown; 10 cases were compound fractures of the joint, of which, 7 recovered, 1 died, and 2 remained undecided. In 4 of the cases, resection of the joint was performed, of which, 3 recovered, and 1 died. In 3 cases, amputation of the arm was resorted to, of which, 2 recovered, and 1 was not decided. In 3 cases of less severity, no operation was performed, and all recovered.

The total number of wounded in the elbow was 14; of whom, 9 recovered, one died, and 4 remained doubtful.

Wounds of the Fore-arm.

Of these, 27 were flesh wounds, and 16 were compound fractures. Of the flesh wounds 22 recovered, and 5 were doubtful. Of the compound fractures, 10 recovered, and 6 remained in doubt.

In 4 of the cases, amputation was performed, and all of them recovered; no death, therefore, was observed from wounds of the fore-arm.

Wounds of the Hand.

Of these, 38 were flesh wounds, of which, 37 recovered, and 1 died; 25 cases were fractures of the phalanges, of which, 18 recovered, and 7 are unknown; 9 cases were fractures of the

metacarpals, of which, 4 recovered, and 5 are unknown; 5 cases were fractures of the wrist, of which, 3 recovered, and 2 are doubtful. 24 fingers were amputated, of which cases, 19 recovered, and 5 were not heard from. One amputation was performed through the metacarpals,—result unknown. One shot across the metacarpals, was very unjustifiably treated by amputation of the fore-arm four inches above the injury; the patient recovered.

Total wounds of the hand 77; known mortality 1.

Wounds of the Pelvic Region.

39 flesh wounds of this region occurred, of which, 30 recovered, 2 died, and 7 were undecided; 1 of the 2 cases which died, was wounded in the bladder, and the other perished of secondary hæmorrhage and general exhaustion, from the bad air of an overcrowded boat.

Only 2 cases of fracture of the pelvis were brought to my notice, both of which recovered; the viscera were not wounded in either. Total wounds of the pelvic region 41.

Wounds of the Thigh.

This is a most important division of the field of military surgery, and from it spring some of the most trying and difficult questions which are ever laid before the operator for decision. The discussion of these questions will be given below, under the head of operations.

The total number of wounds of the thigh was 107, of which, 89 were flesh wounds, and 18 were compound fractures. Of the 89 flesh wounds, 75 recovered, 3 died, and 11 were doubtful; of the 18 fractures, 5 recovered, 12 died, and 1 was doubtful; 5 of the fractured cases were amputated at the upper third, of which, 1 recovered, and 4 died; 3 were amputated at the middle third, of which, 2 recovered, and 1 died; 1 was amputated at the lower third, and recovered; 2 cases were treated by resecting the fractured portions in the continuity of the shaft, both of these died; 8 cases were treated without operative interference, by simply employing splints, position, and such incisions as were necessary to evacuate pus, of these, 2 recovered, and 6

died. The 2 which recovered were both shot in the cancellar tissue of the neck or trochanter, where my operation must necessarily have been amputation at the hip, or excision of the head of the bone; 1 of them lay twenty hours on the field, in very raw and cold weather. It would seem that shots through the cancellar tissue, at the superior fifth of the femur, are much less dangerous than those in the compact bone of the shaft below; the reason is, that when a ball bores its way through spongy bone, it produces only a moderate amount of shattering, owing to the yielding character of that tissue; but the impact of a minnie bullet upon the brittle ivory of the shaft, shatters it for several inches, and disperses the fragments with the force of an explosion among all the surrounding tissues, producing immense disorganization. These cases nearly all die within the first five days, no matter what treatment is adopted.

Wounds of the Knee.

There were 26 wounds of the region of the knee, of these, 14 were flesh wounds, and 12 were compound fractures; 12 of the flesh wounds recovered, none died, and 2 remained doubtful. Of the 12 compound fractures, 5 recovered, 4 died, and 3 remained doubtful; 10 of these fractures were treated by amputation at the lower third of the thigh, of which, 6 recovered, 3 died, and 1 remained in doubt; 1 case was treated by resection of the knee-joint, and recovered; 1 was treated without any operation, and died. In this connection, it may be remarked that I observed a considerable number of cases of gun-shot fractures of the knee at the battle of Shiloh, very injudiciously treated as ordinary fractures, without any operation; as I could obtain no record of the cases, I have not entered them in the tables, but I never knew one to recover. Let any young surgeon, who is reluctant to sacrifice the limb or joint in these cases, take the trouble to dissect two or three of them, and he will see at once why they all die, unless they are amputated or resected. The bullet disorganizes the interior of the joint in a most surprising manner, filling it with five hundred fragments of bone and cartilage and putting it in a condition from which no human frame can recover without operative help.

Wounds of the Leg.

These were 79 in number, of which, 56 were flesh wounds, and 23 were fractures. Of the 56 flesh wounds, 51 recovered, 1 died, and 4 were undecided; of the 23 cases of fracture, 14 recovered, 7 died, and 2 are unknown; 12 of the fractures were treated by amputation of the leg, of which, 11 recovered, and 1 died; 1 was treated by amputation of the lower third of the thigh, and recovered; in 1 case, a portion of the bone was resected, which also recovered; 8 cases were treated by splints, without any operation, of these, 2 recovered, 4 died, and 2 remained doubtful.

Wounds of the Foot.

These were 50 in number; 31 were flesh wounds, and all recovered; 4 were fractures of the phalanges, and all recovered; 6 were fractures of the metatarsus, of which cases, 4 recovered, 1 died, and 1 is unknown; 9 were fractures of the tarsus, of which, 7 recovered, 1 died, and 1 remained doubtful; amputation of the toes was performed in 4 cases, which all recovered. No amputation through the metatarsus occurred; one amputation through the tarsus was performed, and the patient recovered. In 4 cases the leg was amputated, of which, 3 recovered, and 1 died. A portion of the tarsus was resected in 1 case, which recovered.

Predominance of wounds on the Right Side of the Body.

In western warfare, the constant occurrence of battles in the forest, gives predominance to the operations of skirmishers, who deliver their fire usually from the right hand side of the trees that shelter them; in consequence of this, the right hand, arm, and shoulder, and the right thigh, knee, and leg, receive many more wounds than the left.

Discussion of the Operations.

The operations in these cases were, for the most part, executed by well educated and skilful men, so that there was little occasion to criticise them. In respect to the mode of their performance, they will compare favorably with similar operations in

any other army. There were some errors of judgment, respecting the kinds of treatment to be decided upon, but not more than was to be expected.

The following tables show the number and locality of the operations:—

Amputations.

	Recover'd.	Died.	Doubtful.	Total.
Amputations at the shoulder-joint,	4	2		6
do. of the arm,	9		2	11
do. do. fore-arm,	5			5
do. do. hand,	1			1
do. do. fingers,	19		5	24
do. do. thigh, upper third,	1	4		5
do. do. do. middle do.	2	2		4
do. do. do. lower do.	7	3	1	11
do. do. leg,	14	2		16
do. do. foot,	1			1
do. do. toes,	4			4
Total,	67	13	8	88

No case occurred in which we felt justified in amputating at the hip-joint.

Resections.

	Recover'd.	Died.	Doubtful.	Total.
Shoulder-joint,	5	1		6
Elbow-joint,	3	1		4
Parts of hand,	1		1	2
do. shaft of femur,		2		2
Knee-joint,	1			1
Parts of fibula,	1			1
do. foot,	1			1
Total,	12	4	1	18

Ligations of Arteries.

(Generally for secondary hæmorrhage.)

	Recover'd.	Died.	Total.
Sub-clavian artery,	1		1
Sub-scapular do.	1		1
Facial do.	1		1
Axillary do.		1	1
Profunda femoris artery,	1		1
Femoral artery,	2	1	3
Total,	6	2	8

	Total number.	Recover'd.	Died.	Per cent of deaths.
Amputations at shoulder,	50	31	19	38
Resections of do.	25	17	8	32

Showing an advantage of 6 per cent in favor of resections.

In addition to the diminished risk, the great value of the preserved limb is to be taken into account. After resection, the use of the elbow and hand is perfect; and some soldiers have even returned to duty as soon as the cure was perfected. In case of doubt whether an arm can be saved, time should be taken to watch the progress of the patient before deciding, for, although primary operations are preferable, yet the secondary ones are very well borne; and it is a man's duty to risk his life to some degree, for so important a member as a superior extremity. GUTHRIE fully sanctions the same opinion, when he affirms that amputations of the superior extremity should not be primary, unless the impossibility of saving the limb is obvious.

Sabre cuts and bullet wounds, simply opening the shoulder-joint, without serious comminution of the bone, do not render either resection or amputation necessary, as the patient recovers with anchylosis, in the majority of instances. If, however, the head of the humerus is badly comminuted, an operation of some kind is absolutely required, as the mortality in cases treated simply with splints, is found to be over 60 per cent.

Amputations of the arm.—These should only be performed when there is no possibility of preserving the limb. Amputations for bad fractures of the humerus, or for shattered elbows, while there is still a good pulse at the wrist, are no longer justified by any respectable authority. It is often astonishing to inexperienced surgeons to see from what terrific injuries a wounded arm will recover itself. If the bone is shattered, the artery cut, and the anastomotic vessels also so extensively destroyed, that circulation in the limb ceases, amputation should be immediately resorted to. If, however, circulation continues in some measure below the injury, the loose fragments of bone should be picked out, and the limb dressed as for other compound fractures.

The mortality after amputations of the arm is but slight; of 11 cases in my tables, not one died. Of 72 cases mentioned by GUTHRIE, only 17 died. Combining these statistics, we have the following result:—

	Total number.	Recover'd.	Died.	Per cent of deaths.
Amputations of the arm,	83	66	17	20½

Amputations in the fore-arm and hand.—As we recede from the body, both operations and injuries become less fatal. All the cases of amputation of the fore-arm and hand, of which I could obtain the results, recovered. The few who die, succumb not to the operation, but to the secondary effects of the deadly air of overcrowded hospitals. In every case where required, the amputation may be resorted to without fear; but it should be borne in mind that the fore-arm and hand recover from the most frightful looking wounds with surprising ease, and that every inch which can be preserved is of priceless value to the patient. In a mangled hand, almost every part which is not torn off, may be preserved, and should be, generally, retained. I make these remarks, because I have observed that inexperienced surgeons will often be moved by the ghastly appearance of a fractured and lacerated hand, to undertake very unjustifiable amputations.

Amputations at the hip-joint.—No case of this fell under my notice, as we all adopted the principle, that it was an operation which can scarcely ever be justified.

Amputations of the thigh.—In this part of the body, we reverse the rules applied to the superior extremity. Instead of going all lengths to save the member, we incline more decidedly to prompt and resolute amputation on the field. Secondary amputations of the thigh are usually fatal, therefore, the decision of the surgeon must be made up on the spot, from the appearance of the case, and resolutely carried out. My records show 20 amputations of the thigh, of which, 9 died, 10 recovered, and 1 remained doubtful, being a mortality of about 45 per cent. It is of the utmost importance here to observe the difference of mortality between the upper and lower parts of the thigh,

because, on this difference are based life and death decisions. The following table illustrates it:—

	Total cases.	Recover'd.	Died.	Doubtful.	Per cent of deaths.
Amputated upper 3d of thigh,	5	1	4		80
do. middle do.	4	2	2		50
do. lower do.	11	7	3	1	27

Showing plainly that "every inch by which this operation approaches the body, increases its danger."

According to LONGMORE'S statistics, a similar percentage was observable in the Crimean Campaign, as is shown by the following table:—

	Per cent of deaths.
Amputation, upper third, in Crimean War, ...	87
do. middle do. do.	60
do. lower do. do.	57

These figures show a more favorable result in our army than in the British, by an average of about 20 per cent. Combining the two tables, we have approximately the following:—

	Per cent of deaths.
Mortality of amputation at upper third, ...	83½
do. do. middle do.	55
do. do. lower do.	42

The obvious deduction of which, is that the amputation should be made as far from the body as the nature of the injury will possibly permit. Such being the frightful mortality of amputations of the thigh, I tried in two cases to produce a better result, by resecting the ragged ends of the broken femur, and then treating it as for compound fracture. Both these cases died within the fifth day. The same experiment was tried on the Potomac, by Eastern surgeons, and also in the Crimea, and always with the same result,—every case proving fatal.

Still, other experiments have been made, by treating the case simply as a fracture, without any other operation than an incision to evacuate the pus. STROMEYER quotes 4 cases of recovery. My tables show 8 cases treated in this manner, of which, 2 recovered, and 6 died. These cases were mostly fractures above the middle; hence the mortality of 75 per cent

is not greater than would have followed amputation in the same place. In Europe, after the battle of Toulouse, this mode was tried on 43 of the most favorable cases, with a mortality of about 60 per cent, which, on the whole, is not much worse than the results of amputation, which, in nearly all fractures of the femur, must be as high as the middle, and has a mortality of 55 per cent.

A careful, and very deliberate examination of this whole matter, has settled in my mind the following conclusions:—

1st.—A very large portion of the cases with badly comminuted femurs, will die within five days,—under all treatments, alike. There is no perfect reaction.

2d.—Shots through the spongy tissue of the trochanter and neck of the femur, are less fatal than those through the compact tissue of the shaft. This is contrary to STROMEYER'S opinion; but it is nevertheless true. The splintering of the bone, and consequent injury of soft parts, is far less in this spongy part than in the ivory-like shaft below. These cases of fractured neck, require neither amputation nor resection of the head of the femur; a large part of them will recover with simple extension-splints, and in some cases, incisions to evacuate pus; whereas, amputations and military excisions at the hip-joint may be practically said to be all fatal. I know of 2 cases of this fracture which recovered without difficulty in straight splints.

3d.—Amputations above the middle of the femur should only be resorted to in desperate circumstances, where the limb below is either torn off, or is so injured that it has but little prospect of escaping mortification. If the circulation and innervation are good below, a free incision should be made down to the comminuted bone, and the limb be dressed with a straight splint and adhesive-strap extension-bands. The case is a desperate one, but I am confident that this treatment will save more lives than amputation above the middle.

4th.—If amputation can be made below the middle of the thigh, it should be promptly performed, for all severe compound fractures of the lower half of the shaft of the femur, and all gun-shot fractures of the knee-joint. By this treatment, about

75 per cent of the patients may be saved; but if attempts are made to save the limb, almost every man will die. At the battle of Shiloh, a large number of cases were treated with this false conservatism, and many lives sacrificed in consequence. If any young surgeon feels reluctant to sacrifice a fair and plump thigh, for a mere little bullet hole of very harmless appearance in the knee, I advise him first to amputate, and afterwards to dissect the limb; he will find within the joint a horrible disorganization, such as no man can reasonably hope to survive, without operative assistance.

Amputations of the Leg.—These may be resorted to whenever a useful limb cannot be preserved, as the operation is not excessively dangerous. If, however, the circulation in the foot continues, and a chance of future usefulness of the member presents itself, conservative surgery should be practiced; because the danger of postponing or omitting amputation is not great, even though the foot should mortify. One hint may serve to guard young surgeons against a natural error: when a bullet traverses through the tibia from before, backwards, the front opening in the skin is small; but the fragments of the bone are driven back among the tissues of the calf, producing more danger of mortification than the first glance indicates. On the other hand, if the ball has traversed from behind, forwards, it drives all the splinters outward through the skin in front, doing less real injury than in the former case, but still tearing open the skin, and everting the flesh over an area of two or three inches in diameter. The wound looks so hideous, that it is not uncommon for the inexperienced operator to be moved by it to cut off the better limb and save the worse.

Amputations of the foot.—These may be decided upon and executed by the same rules as in civil surgery.

Resections.

Resection of the shoulder-joint.—The grounds of choice between this and amputation have already been discussed under the head of "Amputations at the shoulder." It is to be preferred, in proper cases, both for its superior safety, and because it saves a most important limb.

Resection of the elbow.—My tables show 4 cases of this resection, of which, 3 recovered, and 1 died. ESMARCH quotes 40 cases, of which, 6 died. Combining the two sets, we have this table:—

	Number of cases.	Recover'd.	Died.	Per cent of deaths.
Resection of elbow-joint,	44	37	7	16
Amputation of arm,	83	66	17	20½

Showing an apparent advantage of 4½ per cent in favor of resection. As amputation, however, was often for severer injuries than those which required resection, it will, probably, be fair to assume that in injuries which admit of the choice, the risks of the two operations are about equal; but as resection preserves, and amputation loses the hand, the choice is unquestionably for the former. I, therefore, advise resection for all comminuted gun-shot fractures of the elbow-joint, in which the preservation of the hand is not hopeless from gangrene.

Resections of parts of the hand.—These should be governed by the same rules as in civil practice.

Resections of the knee-joint.—The great mortality of amputations of the thigh, has caused this operation to be proposed as a substitute in cases of bullet wounds of the knee. My tables show only one case, and that recovered. From all sources, European and American, I am able to collect accounts of only 8 cases in military practice, of which, 2 recovered, and 6 died; a mortality of 66 per cent, which is 24 per cent worse than that of amputations at the lower third of the thigh. More extensive statistics, however, are needed to settle its true value. At present I advise, both from my own observations and careful review of the opinions of other surgeons, that in case good air, and freedom from motion can be had for the patient, resection of the knee may be preferred; but, if he must be transported far in an ambulance, or put in a crowded hospital, where there is less than 1200 cubit feet of fresh air for each patient, resection will prove fatal. Amputation should then be at once performed, for delay with a view to secondary resection is not to be thought of.

Resections in the leg and foot.—These are well-borne, and follow the same rules as in civil practice.

Anesthetics.

Chloroform was freely used in most of the painful operations. A mixture of chloroform and ether was used in one case. Ether alone was not used, to my knowledge, in any case. Chloroform was administered in 113 cases, without any accident.

Diseases of overcrowded Hospitals.

There is a class of deadly complications following the injuries of patients after nearly every large battle, which, are almost solely the product of overcrowding and bad air. These are the following:—

Erysipelas,	Pyæmia,
Diffusive phlebitis.	Hospital gangrene.

About 10 or 15 per cent of the deaths in military surgery are from these causes, and I regret to say, that in many instances these dead are slain by the surgeon, whose stupid ingenuity was all expended in procuring beds in warm and close quarters, where the patients poison each others' blood, instead of having free air where they may breathe and live.

After the battles at Vicksburg, the wounded were put upon three steamboats: but by accident were not evenly distributed. It thus happened that the small steamer "Von Phul" received over 300 cases, while the large boat "City of Memphis" had only 120. This arrangement, owing to military movements, could not be changed under about ten days; the results were disastrous,—but yet instructive. About the fifth day, I was ordered to take command of the "Von Phul." Going on board, I found about half the patients crowded into the cabins and state-rooms, where they had, by measurement, only 250 cubic feet of air per man, when they should have had not less than 1200 feet each. The windows and doors were mostly closed, and an overpowering stench of putrifying pus pervaded everything. Erysipelas and pyæmia had already commenced; and secondary hæmorrhage and gangrene were quite common. The patients were rapidly dying, and every wound, without exception, presented a bad, unhealthy aspect. Meanwhile, the rest

of the patients who occupied the open decks, outside, were doing well. Almost every death was in the cabin. I immediately opened all the windows and doors, and ordered a large portion of the wounded to be carried out and laid upon the decks. In this way, the evil was mitigated, but much mischief was already done. By the tenth day, we had lost 45 patients, or one-eighth of the entire number. Meanwhile, the "City of Memphis," with her small numbers, and vast airy cabins, had only lost 1 patient in 20. On the tenth day, the military commanders committed the enormous blunder of ordering all the wounded of the three boats to be concentrated upon the "City of Memphis." This, however, being the largest boat in the fleet, did not prove so bad as might have been feared; but it was a most unwise arrangement, and would have cost some further lives, but for the great care exercised over ventilation, by Dr. TURNER and his assistant, Dr. WITT.

I have observed with pain, that partly by military necessity, and partly by ignorance of ventilation displayed by surgeons, this error of overcrowding is repeated after almost every large battle, and perpetuated in most of our large General Hospitals.

If the weather is not so inclement as to endanger death from cold, I have no doubt that by far the best plan is to keep the patients dispersed for two or three weeks in open tents and booths in the field; although, in this way they have less comfortable beds, and coarser food than in Post Hospitals, they get fresh air, and with that they often survive the most desperate wounds.

It is often remarked, that men wounded in occasional skirmishes, where they are kept with the Regimental Hospital in the field, seldom have erysipelas or pyæmia, and recover from their injuries far more readily than those sent away to large, square, six story buildings, like the Overton Hospital in Memphis, where overcrowding is frequently unavoidable, and perfect ventilation an impossibility.

The results of my observations in the army, under this head, may be summed up, therefore, in one sentence:—Let the military surgeon see that he gets fresh air for his men in preference to food, warmth, or shelter.

Men will lie in snow, on wet ground, or under open sheds, and do well on bacon and hard bread; but, in close hospitals they will die, though they have all the luxuries of the world around them.

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Editorial.

AMERICAN MEDICAL ASSOCIATION.

OFFICE, MEDICAL EXAMINER,
CHICAGO, *February 20th*, 1863.

The next regular Annual Meeting of the American Medical Association will be held in the City of Chicago, Illinois, on the first Tuesday in June, 1863. Every permanently organized State, County, and Local Medical Society is entitled to send one Delegate for every ten members, and one additional Delegate for a fraction of more than half of that number. Medical Colleges, and Hospitals containing over 100 beds for the sick, are entitled to two Delegates; and all other permanently organized Medical Institutions are entitled to one Delegate each.

The Committee earnestly desire a full attendance from all parts of the country.

By order of the Committee of Arrangements,
N. S. DAVIS, *Chairman.*

We call the earnest attention of our readers to the above notice of the Annual Meeting of the American Medical Association. For two years past, the Committee of Arrangements have been constrained by the almost unanimous advice of members in all sections of the country, to postpone the Annual Meetings. Recently, however, one of the oldest and most influential medical organizations in the country: the New York State Medical Society, has unanimously recommended a meeting at

the regular time, the present year. The same advice has been received from other quarters; and, though some still advise a further postponement, the Committee, anxious only to comply with the wishes of the profession, and to sustain the national organization, have deemed it advisable to issue the usual notice for a regular meeting.

Every necessary arrangement has been made to accommodate the meetings, both of the Association in General Assembly, and in Sections; and we can assure the profession everywhere, that they will be as cordially welcomed in Chicago, as they have been in any city heretofore visited by the Association.

ILLINOIS STATE MEDICAL SOCIETY.

The regular Annual Meeting of the Illinois State Medical Society will be held at Jacksonville, on the *first* Tuesday in May next; commencing at 10 o'clock in the morning. We hope the profession in every part of the State will be represented, as the meeting will be an important and interesting one.

No further postponement will be made on account of the continuance of the rebellion.

N. S. DAVIS,
Permanent Sec'y Ill. State Med. Society.

Chicago, *Feb.* 13*th*, 1863.

We trust the above notice will receive due attention from all our readers in this State.

We are assured that the Committee of Arrangements will do all they can to make the meeting a very pleasant, as well as a profitable one. Every County and Local Society should see that such delegates are appointed as will attend; and members of the profession in cities and counties where no social organization exists, may rely on being made members, either permanently or temporarily, by invitation, if they are present at the meeting. Let all who desire to maintain our State organization, aid in extending the notice of the meeting among their professional friends and acquaintances.

STATE OF ILLINOIS,
OFFICE OF THE BOARD OF MEDICAL EXAMINERS,
CHICAGO, *March* 9, 1863.

DR. N. S. DAVIS,
EDITOR OF MEDICAL EXAMINER,

SIR:—Many of your readers will be interested to know the following, in regard to the Military Medical Service:—

There are vacancies in the Illinois Regiments, in the places of Surgeons and Assistant-Surgeons, especially the latter.

Candidates first obtain an order from the Governor, or Adjutant-General, for examination; and, after being approved, apply to the Governor for a Commission.

The Examiners require satisfactory evidence of "professional standing, moral character, and sobriety."

The examinations embrace all the departments of Medicine and Surgery.

Respectfully,
HENRY WING, M.D.,
Sec'y of Board of Examiners.

NEW BOOKS.—We have received several valuable works, such as, "Clinical Lectures on Diseases of Women," by J. Y. SIMPSON; a new edition of Bedford's Obstetrics; Transactions of the New York Academy of Medicine, and a variety of pamphlets. The unexpected length of the article of Prof. ANDREWS, on the Surgical results of the Battle of Vicksburg, leaves us no space for the usual Book Notices in the present number. We shall endeavor to do them justice in our next issue.

COMMUNICATIONS.—Interesting papers have been received from Drs. JONES and TREAT of Janesville, Wis., and from Prof. BYFORD of this city. They will be found in the next number of the *Examiner.*

In the next number, we shall also resume the publication of regular Clinical Reports of what is doing in the Hospitals and Dispensaries of this city.

Artificial Limbs.—Hereafter, soldiers entitled to artificial limbs, and not in one of the U. S. Hospitals established for their reception, may, upon presenting proper proof to any of the following duly appointed Medical directors, receive from them an order for the same.

Names of Medical Directors.—Surgeons A. N. McLaren, U. S. A., Boston, Mass.; Chas. McDougall, U. S. A., New York, N. Y.; W. S. King, U. S. A., Philadelphia, Pa.; I. Simpson, U. S. A., Baltimore. Md.; R. O. Abbott, U. S. A., Washington, D. C.; L. H. Holden, U. S. A., Cincinnati, O.; J. F. Head, U. S. A., Louisville, Ky.; M. Mills, U. S. A., St. Louis, Mo.; I. B. Potter, U. S. A., Chicago, Ill.; R. H. Alexander, U. S. A., New Orleans, La.

These orders may be given as desired in each individual case, upon any of the following manufacturers: Palmer, Selpho, Bly, Hudson, or Jewett, and the price of the limb furnished by these dealers on such orders is not to exceed fifty dollars.—*Med. and Surg. Reporter.*

Medical Qualifications.—Mr. Postgate, in his very able introductory lecture at Birmingham, thus sums up the requisite qualifications for the study of medicine:—1. Good health, without which, all thoughts and all efforts are puny, incomplete, and inoperative. 2. A well-balanced and an evenly regulated mind. 3. Unselfishness. 4. Fixity of purpose. 5. An unswerving determination to do always what is right, let the consequences be what they may. 6. Clearness of perception. 7. Promptness of action. 8. General benevolence; and, I will add, 9. General contempt for the luxuries and comforts of life, looking for reward to that satisfaction, peace and contentment of conscience, which flows from the conviction of human misery alleviated, and of human life prolonged, by duties faithfully discharged and services cheerfully rendered.—*Dublin Medical Press.*

CIRCULAR TO PHYSICIANS.

Surgeon-General's Office,
Washington, *February* 20, 1863.

The Surgeon-General would remind the medical profession that, some months since, a medical officer was detailed by the Department, to prepare the surgical history of the rebellion. It is intended that this history shall embrace, among other topics, the collected results of the gun-shot injuries of the war, and of the operations performed for their relief.

Many facts bearing on these subjects can be obtained by an examination of the returns of the various military hospitals; and explicit orders have been issued to the surgeons in charge, as to the manner of reporting. Yet it is found, practically, that the results of all cases cannot be included in these reports.

In every depot of wounded, and after every action, there exists a large class of injured men, who, in various stages of convalescence, pass from the observation and treatment of the military surgeon, and are lost sight of by the medical department. These patients are those who are either furloughed, or discharged the service by military authority, before their treatment is entirely terminated. Under such circumstances, all past records of these cases are rendered valueless from the absence of a positive knowledge of their results.

To remedy this evil, the Surgeon-General appeals to the profession of the country, and solicits their co-operation. He would ask every physician and surgeon who may be called upon to treat any officer or soldier, wounded in the service, carefully to note the results of the case, to record his observations, and when the case shall have terminated, to transmit a copy of his observations to the Surgeon-General's office.

The following form is suggested:—

FORM.

Date of Communication.

Character of Injury. Name and address of Physician forwarding it.

	Where wounded and Date.	To what Hospital Transported.	What operation, etc., Performed.	By whom Performed.	Date of Furlough or Discharge.	Present condition of Patient. Account of case, Treatment, etc. Result.
Patient's Name and Age,						
" Rank,						
" Reg't & Co'y,						
" Post Address,						

In all cases of recovery after *excisions* of bone the amount and character of the movements executed by the patient with the injured limb, should be accurately described. Where amputation has been practiced, the character of the stump should be

noted, especially when the operation has been performed through an articulation. In cases of compound fracture, the point of fracture should be stated, as also the degree of efficiency of the limb remaining after treatment. In compound fractures of the femur, the amount of shortening should be measured, and the strength and usefulness of the limb described. In those patients in whom injuries of the skull have occurred, or upon whom the trephine has been applied, the mental and physical conditions should alike be dwelt upon.

In thus placing before the profession the object he desires to obtain, the Surgeon-General trusts that he will meet with active co-operation. By the means above indicated, much information that is valuable may be collected, and the interests of the science of surgery materially advanced.

W. A. Hammond,
Surgeon-General, U.S.A.

—*American Medical Times.*

USE OF TOBACCO.

Sir Ranald Martin expresses, in his recent work on *Tropical Climates*, the following opinion of the use of tobacco:—

"There is another habit respecting which I shall venture to say a few words, because it is both a bad one and a comparatively new one—I mean the immoderate use of Tobacco—a habit brought amongst us from the continent of Europe, on the cessation of the French revolutionary war. Young military men are apt to regard the habit as a manly one, until severe dyspepsia, giddiness, shattered nerves, sallow complexion, disturbed action of the heart, and other symptoms show themselves, and then it is frequently too late to stop. 'The sallow complexions, black, broken, and unsound teeth' of the Germans are matters of notoriety to all travellers. 'You may,' says one of them, 'smell a German in any part of the room, or scent him at a quarter of a mile's distance in the open air, if the wind be favorable.'

"Much is talked of the good effects of tobacco-smoking in damp and malarious localities, by persons who, in defiance of geographical differences, carry the habit wherever they go—from the marshes of Burmah to the arid plains of Hindustan, forgetting that, meanwhile, in the language of Cassio, 'they put an enemy in their mouths to steal away their brains;' but I think there is good reason to question the benefits of this habit of smoking even in the fatherland of fog and damp, or that

tobacco ever acts as a preventive to any disease, and least of all to fever.

"The truth is, that many persons puff themselves into the good graces of snobs and spoonies like themselves, and use cigars by the score now, as Lord Chesterfield drank and smoked in his time, notwithstanding his aversion to wine and tobacco—'because he thought such practices very *genteel*, and made him look like a man.' How his lordship may have looked under the united influence of wine and tobacco, his biographers have failed to relate; but we all know how our modern 'spoonies' and 'snobs' in our thoroughfares look, after a course of cigar-smoking alone."—*Med. News and Lib.*

Reported Killed.—Dr. Thos. N. Penrose, of this city, Assistant-Surgeon on board the Harriet Lane, is reported to have been killed in recent capture of that vessel at Galveston, Texas, by the rebels.—*Med. and Surg. Reporter.*

TOLLE & DEGENHARDT,

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George Tolle, Charles Degenhardt.

THE

CHICAGO MEDICAL EXAMINER.

N. S. DAVIS, M.D., Editor.

VOL. IV. FEBRUARY, 1863. NO. 2.

Original Contributions.

ARTICLE III.

VALEDICTORY ADDRESS,

DELIVERED AT THE END OF THE WINTER-SESSION, 1862.

By F. MAHLA, A.M., Ph. D., Prof. of Chem. Med. Dep. Lind University.

Gentlemen of the Graduating Class:

You have devoted yourselves to an arduous profession, and have received the highest honor which could be conferred by our Alma Mater, under whose auspices you have begun and completed your studies.

It has been customary to select this occasion for commending to the attention of graduates, certain thoughts, which cannot very well be discussed in the ordinary course of instruction. The agreeable duty of following up this usage, at the end of the present term, has been assigned to me. In discharging this trust, I venture to say, that you are better prepared to commence your professional career, than the usual range of medical students. I do not say this with the intention to flatter your vanity, or to make an ill-timed compliment to ourselves, your late instructors. I believe, however, that you can rightfully claim a better qualification, on the ground, that the course of teaching in this Institution is so much more extended than that

of other schools of medicine, that you have had ample occasion to devote your full attention to every branch of medicine. The clinical advantages, also, you have enjoyed, gave you rich opportunity to improve, and perfect your knowledge in every respect.

A new era in your life, Gents, commences to-morrow. You are going to show that the grain which you were sowing has developed itself to a plant, which bears fruit itself. When in the act of commencing such a new epoch in life, the human mind is more willing than ever to consider a friendly advice, as well as an earnest request. On this supposition, I wish to make you aware of the fact, that you assume this evening important responsibilities and duties. I need not enter into specifications, as far as your relations to the public are regarded, for it suffices to recommend you: try to be men in the noblest sense of the word, and you will readily discover the right ways. Be honest, upright, never faltering in the discharge of your professional services, and you will feel that you are doing justice to yourselves, as well as to the public.

I cannot omit, however, to bespeak at a greater length, a duty which you owe, not only to yourselves, but also to the noble profession to which you now belong. This important duty consists in continuing your studies with energy and perseverance. I pray you, therefore, Gents, not to throw your books away in leaving these halls; and let me hope that you will not forget this request. Alas, that so many who go forth from the various schools of medicine, suppose it to be sufficient if their fellow-citizens think them to be learned men, because they are permitted to append the M.D. to their autographs. The physician, who feels contented to possess an approximative perception of what concerns the human system, who feels exceedingly gratified if he can deceive others as to his real knowledge, that physician may attract patients, he may be able to amass wealth, but he is not worthy to practice the hypocratic art. He succeeds in a *certain* sense, but lacks the *true* success.

I can readily imagine, that some of you, in entering upon the study of medicine, have done it, not for the beauty of medical

science, but for the seeming lucrativeness of the "business." Let me hope that none of you leave these halls with these unfortunate ideas, for I would feel that the instructions which you received in this Institution had been in vain. Indeed, very few physicians succeed in making fortunes by their practice; and, if you made wealth your aim, you may, perhaps, be sadly disappointed. I am certain, however, that *you* have higher motives, and that you love medicine not as a *business* but as a *science.*

You may have come to this school with the impression that medical knowledge consists in the art of getting up prescriptions. In leaving it now, you are aware that this part is of but minor importance, as far at least as the science of medicine is regarded. You know now, that this science is the means which enables you to solve even the most difficult questions that concern the vital system, yea, even life itself.

It is obvious that a science with so wide a field, requires deep and earnest studies. A man who ardently wishes to master his profession, must not wantonly pass over an imperfection in his knowledge. He must not fancy that the acquirement and cultivation of certain branch sciences of medicine is a burden, and will hinder his progress. Remember well, that a vessel which seeks deep water is precious and reliable; the shallow craft, however, though possessing speed, may capsize during the first gale, and woe then to the poor unfortunate who trusted to it too eagerly. Let me recommend you, therefore, to continue your studies; and, as far as I can see, you are not disposed to consider the granting of the title of Doctor of Medicine as the keystone of your professional education. Your education has, indeed, but just commenced, and it will take a long life of earnest study, to become adepts in your art.

Gents, you have chosen a noble avocation. BACON already said: "Physics is the mother of sciences, and contributes as such to the civilization of the people." History has approved of this sentence, and nothing is easier than to show the truth of these words. Let me merely remind you of past epochs, let me point out the times of the old powerful Roman Empire,

when it was supposed to be necessary to create particular deities for every disease. Gods and goddesses were busy from the birthday of an individual up to his death-bed. The convulsive twitchings of a child, just as well as the accomplished mania of an adult, were ascribed to demoniac influences; and no cure was undertaken, unless the favor of the gods was bribed by immolations. Again, let me mention the times of the middle ages, when men were punished with death, under the pretence, they had by witchcraft produced epidemic diseases; and let me now direct your looks upon the enlightenment of the present age,—then you will ask with me: must we not feel gratified over the change that took place in so short a period? Civilization, like the rising sun, diffused its golden rays, until people bowed their heads in admiration of its power; and we may proudly say, that medicine has been the stimulus for its development.

In the course of time, when the healing art was no more inherited by tradition from one generation to the other, but made the object of regular studies, it was found that it had to derive its chief support from the socalled natural sciences.

Simple and natural, like the morals of the ancients, were, undoubtedly, also their medicaments. We know that the first medicines were derived from the vegetable kingdom. At a later period, when the necessity for iron tools was felt, the mineral kingdom was explored, and many mineral substances were soon also valued as remedial agents. The wants of the healing art were, however, daily increasing; and as soon as chemistry, in its first rudimentary form, made its appearance, its products were drawn into the circle of medicinal usefulness, and employed for the purposes of curing diseases. Prolongation of life, and the preservation of youth, were then the objects of research. Cosmetics, paints, and costly waters, made their appearance on the toilet-table, and were, probably, not less appreciated by the fair sex, than at present. The wheel was thus set into motion, and the most invaluable data were brought to light in rapid succession. Soon each of the natural sciences was made a special study. Chemistry especially, and physical philosophy, made such astonishingly rapid progress, that they had to be

regarded not only as the fundamental branches of medicine, but soon became also, indispensable to industry and science. We see, thus, that the natural sciences, which were cultivated at first merely for the purposes of discovering means by which life might be prolonged, soon became the most effectual supports of refinement and welfare. Is this difficult to prove? If you think so, consider the single discovery of oxygen, made not a full century ago. The morals and habits of the whole civilized world were changed since that time. The knowledge of the composition of the atmosphere, that of the solid crust of the earth, of the water, and their influence upon animal and vegetable life, are connected with it. The lucrative running of innumerable factories and trades, the important metallurgic processes, by which the precious metals can be extracted from the earth, depend on it. Thus, it may be asserted, without hesitation, that the material welfare of entire nations has been doubled and quadrupled since that discovery; and I do not believe we say too much, in proclaiming, that the wealth of every individual has been increased by it.

Every discovery brought to light by studying natural sciences, has similar beneficent consequences, and affords advantages to the individual as well as to the community, by increasing their power and well-being. In order to convince you of this fact, look at more recent discoveries. Not many years ago, the world was startled by the invention of the iron horse; soon after, flashes of lightning were used to send a friendly word from one hemisphere to the other; still later, the solar light was employed, not only by the artist, who painted with its fiery pencils, but also by the chemist, who detected with its aid, traces of substances, in proportions, which a mathematician will find difficult to calculate. All this has been accomplished by those natural sciences, which received the first impulse for their development through the study of medicine. But what has become of this latter science itself? Has it made equal progress with its sister sciences? It is true, medicine also has been developed astonishingly. Talented men devoted their energies to it; but if we disregard the wonderful discoveries in surgery,

must we not acknowledge that a great deal remains to be done in the province of medicine, before empyricism shall make room for a rational and positive science?

I could mention numerous facts, which would convince you of the truth of my assertion. A few, however, will suffice, and I refer, therefore, to the struggle between solidism and humorism. If you carefully consider the principles of these two theories, you will discover that the idea of the personification of disease is put forth by them. Disease was regarded, during centuries, as something which had existence in itself, and was, as such, contrasted with health. The more this idea gained ground, the more appeared the necessity to locate, at least, disease in certain parts of the animal organism. Solidism suggested that it resided especially in the solid parts of the body, while humoral pathology argued its existence in the fluids. Involuntarily, a conflict was thus originated, in which the partizans of either side had the same watchword: here disease, there health and life. Life and disease carried on war in the body, against each other. The result of this supposed struggle was, however, always unfavorable to disease, for its victory was a suicide, in as far as it perished with life itself. This contradiction should have been sufficient to show the incorrectness of the idea. Indeed, it does not seem difficult at all to see that disease is nothing else than life itself, whose functions, owing to the change of outside influences, are manifested in an exceptional form. This view of the nature of diseases is even not shaken by the sudden appearance of epidemics; for, if disease has to be regarded as the irregular manifestation of an individual life, we have to look upon epidemic diseases as upon the symptoms of a disturbance in the life manifestations of entire masses. They will make their appearance when and wherever numbers of people are subjected to the same unfavorable circumstances.

The vehement and dreadful suddenness, with which epidemic diseases often made their appearance, had, during centuries, the effect of almost paralyzing the human intellect. Instead of searching for *natural* explanations, the fundamental indolence

of mankind found it easier to attribute to them a divine origin; and their existence in certain localities, was only too often called a divine punishment for human sinfulness.

If, however, disease is nothing else but life under changed and unfavorable conditions, then it is obvious that curing disease is nothing else but the restoration or re-establishment of the normal life-manifestations.

Life is not a condition which remains the same at all times, but one which continuously *re*forms. We may compare it with a river, which uninterruptedly rolls away in the individual channel; and the highest duty of the medical man, consists in regulating its current, removing obstructions from its course, so that it cannot cause destruction by overflowing, nor loose itself among sands.

Modern medical science refutes the phantom of a personified disease. Let us do the same, and we will find that we have to drop also the idea of the existence of specific remedies. We strip the latter of their magic charm, by destroying the entity of diseases.

It is not very long ago, that doubts as to the existence of specifics, were timidly raised. Mercury in syphilis, quinine in fevers, were quoted as such. We know now, that not diseases as such are the objects of therapeutics, we regard, as such, merely the changed and irregular manifestations of life; and we must admit, that these can but very seldom be identical. This single quotation already might convince you, that the science of medicine is daily undergoing transformation. I might mention hundreds of similar instances; and I entertain no doubt they would have the effect of rousing not only your interest, but also your ambition, to participate in solving these seeming mysteries.

Some of you might, however, be inclined to say: true, had we been living at that time, we also would have contributed our share, but these questions and uncertainties are now fully settled. To those I would only suggest, that the field of observation is daily getting broader and wider. Not long ago, our science only recorded the positive fact of a source of continuous

heat in the animal organism, without attempting a further explanation; when the discovery of oxygen and LAVOISIER'S theory, made it possible to view the respiratory process as a combustion. The suggestion that animal heat was the natural consequence of this combustion process, was near enough, and also this problem seemed to be fully settled. The assumption was made, that the stability of animal heat was maintained by the combustion of carbon in the body; and even our most celebrated men asserted, singularly enough, that by this combustion, just as much heat was developed as by the combustion of carbon in air or in oxygen: and the attempt was even made to show by calculation the necessity of this stability of heat. Soon, however, the suggestion was raised, that the comparison between the two combustion processes had to be essentially modified; for we have not carbon in the state of an element in the system, but as a constituent of those numerous organic combinations which form component parts of the animal body. Many of these contain, besides carbon, hydrogen and oxygen, also nitrogen, and still others in addition, sulphur and phosphorus; and it is obvious that all these substances are not only liable, but must undergo, simultaneously, combustion. This combustion does, however, not take place in such a manner that the final products which we exhale or secrete are generated directly by the entire dissolution of the muscular substance, or similar constituents of the organism. It is now a well-established fact, that many intermediate compounds are generated, before the final products—carbonic acid, urea and water—are ejected as effete matters from the system.

Alcohol, *f. i.*, is first converted into acetic acid, this latter into oxalic acid, before carbonic acid and water are produced from it; and how numerous are the intermediate products of combustion, generated from such complicated bodies as albumen, fibrin, etc., before they are resolved into urea, carbonic acid, and water?

Finally, it seems very likely that this complicated combustion is not the only source of heat. How much of it may be attributed to other chemical processes, as *f. i.*, to the chemical com-

bination of acids and bases, or the absorption of gaseous substances in liquids, is difficult to say.

One thing is, therefore, certain, that the original view as to the source of heat, was not correct; and that the natural philosophers in attempting to explain by calculation the stability of heat, and taking carbon only in consideration, committed a gross mistake. Animal heat is but one of those numerous vital phenomena, for whose elucidation the physiological chemist studies all those minutiæ, and retains them in his memory. For whom, indeed, could the study of chemistry and chemical physiology be of a greater interest than the medical man? for whom could it be more profitable and necessary to gain an insight into the processes of digestion, respiration, and nutrition? and, still it is a fact, that this beautiful science which constitutes, in reality, the basis of medicine, is usually neglected by the physician. It is true, the attention of medical men in Europe has, during the last decennia, been more and more directed towards this study, for the development of physiology made it an absolute necessity. It seems to be different, however, on this side of the ocean.

The people of these States are said to be money-loving; and calumniators dared even to assert they placed the money-making principles above their God. If ever this should have been so, let me hope that this period has passed by, especially in medicine. There may have been, or there are, perhaps, physicians, who know medicine, not as a science, but as an *experimenting* art, who recognize no principles, but rules taught by experience, who suppose it to be sufficient if they remember how this or that operates in this or that case. Such an experimenting art does not inquire into reasons, it ignores the little word "why." Without a correct conception of natural phenomena, without a thorough physiological and chemical education, is it to be wondered that such physicians change so easily their professional creeds?

The doctrines of HAHNEMAN found, at a certain period, followers in Germany, in that land in which they were originated; but science did not long tolerate the ridiculous and pig-

mean excrescence. Homœopathy had to die, before the swaddling-clothes were fairly removed from the ill-born creature.

The seeds of useless weeds, however, are easier propagated than those of cereals. We are all aware of this fact, and it may serve us to explain the strange phenomenon, that doctrines which were repudiated in the country that originated them, found a fertile soil on this side of the Atlantic. Our great chemist, LIEBIG, in alluding *to the same thing*, says: "Intelligence alone, does not protect even entire nations from aberrations of mind; the child, however, ceases to fear phantoms, the more its mental faculties and knowledge are developed." Gents, I think we may console ourselves with him.

In entering now, Gents, upon your professional career, you will meet strange brethren. You will find not only partizans of all sorts of isms, you will also encounter men who pretend having made regular studies, but deport themselves as if they had discovered the philosopher's stone, and were infallible in their skill. To hear this sort of men, they never fail to cure a disease, and always send their patrons away rejoicing. Such men are usually good business managers, they are shrewd and sharp, and never hesitate to take advantage of even the vilest and most despisable means. Every wheel is set into motion by them, in order to gain notoriety. They, *f. i.*, not only make advertisements, by covering all buildings with immense posters; they also manage, in some way or the other, to have an editorial friend, who, from time to time puffs, in an extra item, the wonderful cures of the doctor. Usually, also, they make a special disease their favorite; and all their patients must be afflicted with that speciality. To hear them, they have, *f. i.*, any numbers of patients with typhoid, or with heart disease, and these they cure in less than no time.

I need not warn you to avoid this sort of proceeding. You are too well-versed in the science of medicine, to sink to the rank of charlatans.

I cannot omit, however, to refer to others, whose moral principles are not superior to those of the preceding. There are physicians, who adopt the policy to see in every little indis-

position a grave disease, in order to cover themselves with glory, by showing how rapidly they can cure it. Shall I urge you, Gents, to avoid also this reef? If you consider that your opinion as to the probable result of an indisposition is often regarded as authority, if you perceive what amount of grief and sorrow you are able to produce in already afflicted hearts, *you* certainly do not wish to earn your fame in this way. Still worse in his acts is, however, that medical man, who, in preferring the surgical arena, never hesitates to perform an operation, though he is well aware, that by undertaking it he sacrifices the life of his patient. He is doing it, however, with the hope to acquire thus the renown of a skilful operator.

In cautioning you not to imitate these men, I do not intend to advise you to hide yourselves before your fellow-citizens. Times will come, when your firm hand will prove you a good operator, when your diagnosis will herald you a physician, and will bring you fame and success.

Success! What a charm for a beginning practitioner, is in the few words: professional success! Honor and wealth are coupled in it. Many who find the first, cannot get the latter; few can boast of having acquired both; but still fewer can pride themselves of true success. By true success, I do not mean the accumulation of riches, for they may be also, and in most cases are, quicker obtained by the mere charlatan. I mean by it, that success which every man finds in the faithful discharge of his duties, which his own conscience is granting him; and allows him, when more advanced in years, to review, with pleasant feelings, his former life.

Gents, do you wish a success like this? If so, you must throw aside all selfish thoughts, must never complain of tiresome professional duties, and must possess a great deal of self-sacrificing energy. The life of such a physician is, however, far from being always pleasant; for you may be summoned at nights, or at daytime, you must never hesitate to follow. May it be the costly mansion of the rich, or the humble homestead of the poor, go and bring them relief if you can. If then, in after years you can say, that you were able to dry the flowing tears,

and fill with joy again the sorrowed hearts, by your professional skill, then you will grant the truth of my assertion: this only was a true success. You will, then, esteem yet higher, the noble profession which you have chosen for your career.

Gentlemen, the course of instruction, which this evening ceases, has given us occasion to form an acquaintance with each other, which, as I hope, will not lack of future friendship.

In commencing your professional life, I am confident you will give credit to the Faculty of the Medical Department of Lind University, for its efforts to make your attendance in this Institution both agreeable and profitable. You received the Diploma of this School of Medicine, as a just tribute of your medical attainments. As I know you, I feel confident you will continue your studies, you will love and honor your profession, you will rank high in all moral perfections, in fact, you will acquit yourselves like men.

I cordially tender you, therefore, in the name of our Faculty, my hand, and bid you a friendly and affectionate farewell.

ARTICLE IV.

TWO SUCCESSFUL CASES OF OVARIOTOMY.

By W. H. BYFORD, M.D., Professor of Obstetrics, &c., Medical Department Lind University.

Case I.—Mrs. H., aged 38 years, has been gradually increasing in size with ovarian dropsy, for the last four years. She first observed a small tumor in right iliac region. Before removal, it filled up the pelvis and abdomen, until the patient was as large as if at full term of pregnancy. Her suffering for several months had been very great, on account of impaction of the pelvis, and her general health was rapidly deteriorating. The tumor was multilocular; and with its contents, weighed nineteen pounds.

The operation for its extirpation was performed in presence, and with the assistance of Drs. Shumway, Cheeney, Davis,

BEVAN, and JONES. An incision between three and four inches in length in the linea alba, about equal distances from the umbilicus and pubis, enabled us to draw off the contents of the numerous cysts with the trochar, and extract the whole tumor with great facility and dispatch. The pedicle was transfixed by a needle carrying a large double hempen ligature, and tied in two parts firmly as I could draw the twine. The wound was closed by three silver pins, the lower of which was passed through the middle of the pedicle, so as to confine the cut edge upon a level with the skin of the abdomen. I should have mentioned, that after being tied, the pedicle was divided between the ligature and the tumor with the knife. When the tumor was first exposed, there were within view, ramifying over its surface, a number of large veins, several of those were larger than a goose-quill. The pedicle was large and fleshy, showing several large venous trunks. There were no adhesions anywhere; and the only obstacle to a ready removal of the tumor, when lessened by evacuation, was caused by a cyst that completely filled up the cavity of pelvis. It was so completely moulded into the inequalities of that cavity, that some force and address in manœuvering were requisite to lift it out. The wound was covered with a water compress, and the abdomen encircled with a broad woollen binder. The operation and dressings were finished in eighteen minutes, after the patient was completely under the influence of chloroform. Dr. SHUMWAY, whose patient she was, and to whom much credit is due, for his assiduity and skill in the after management of the case, kept full and accurate notes; they are highly interesting on several accounts, and will be read with profit by those who are studying the subject. They are subjoined:—

Operation was completed at 3 o'clock and 33 min., Oct. 29th. 4, P.M., vomited once a little water; pulse 76; complains of smarting pain at seat of wound, and severe pain in the bowels: "like the pain of colic;" ordered tinct. opii. gtts. 40. 6, P.M., much more comfortable; says that she has not a particle of pain in the right side, but complains of pain in the left hypogastric region and down the left thigh; pulse 88, full and soft. 6.30,

P.M., pain continuing, gave tinct. opii. 30 gtts. 8.30, P.M., still complains of severe pain in left hypogastrium and thigh; pulse 88; gave tinct. opii. 40. gtts. 11.30, P.M., patient easier; has slept, with a few minutes intermission now and then, since 9 P.M.; pulse 88, as before. 12, P.M., return of pain; gave tr. opii. 30 gtts. Thursday 30th, 3, A.M., used catheter at patient's request; comfortable; pulse 88. 9, A.M., pulse 90, full and soft; complains of return of pains in the left thigh; gave tinct. opii. 30 gtts. 12, M., complains of thirst, otherwise very comfortable; ordered *ice, ad libitum;* repeat tr. opii. 30 gtts. 3, P.M., symptoms unchanged; relieved bladder with catheter: tinct. opii. 30 gtts. 5.30, no change, patient comfortable. 9, P.M., patient cheerful; ordered tr. opii. continued every three hours if she is restless, or complains of pain. Friday 31st, 8.30, A.M., found patient comfortable; has slept at intervals during the night: pulse 90: skin cool; does not complain of pain, except a slight smarting at the seat of wound; eath. 8.30, P.M., finds patient feverish; pulse 100; countenance anxious; skin dry and hot: very restless and irritable; much troubled by secretion of mucus in the trachæ, with desire to cough; slight fulness of the abdomen; had taken 40 drops tinct. opii. at 4, P.M., ordered 40 drops more, as she was still unable to pass water; her bladder was relieved by use of eathcter. 10, P.M., less bronchial irritation; continue tr. opii. 30 gtts. every three hours. Saturday, Nov. 1st, 8.30, A.M., more comfortable: pulse 96, softer and fuller: has slept at intervals during the night; tympanites increased; ordered em. terebinth; continues tr. opii. 12, M., considerable tympanites; complains of pain in the bowels, with desire to go to stool; upper part of the wound looking well; slight phlegmonous inflammation about the pedicle: pulse 100; continue em. terebinth and tr. opii. 6, P.M., tympanites increased: but less tenderness over the abdomen than there was last night; more cheerful; pulse 96, soft and full; gave 5 grs. calomel; continue em. terebinth and tr. opii., with b. c. soda. Sunday, Nov. 2d, 8.30, A. M., found patient cheerful, she says that "she is almost well, and meant to have had her clothes changed before the doctor

came;" nurse was engaged making her toilet; ordered all operations of that kind to be suspended; pulse 100; tympanites increased, but no tenderness over the abdomen; continue em. terebinth, tinct opii. and *perfect rest.* 4, P.M., found patient much worse; was taken soon after we left in the morning with severe pain in the left hypogastrium; pulse 128, small and quick; skin hot and dry; tympanites or flatulence much increased; gave tr. opii. 40 gtts., and ordered enema of

Ol. Terebinth,.....3ss.
Ol. Ricini,.....3i.
Yolks of 2 eggs,.....
Gruel,.....Oj. M.

6, P.M., enema retained; gave another of soap-suds, which brought away a large amount of gas, but no feculent matter; pulse 120; pain subsided: abdomen tender; wound looking tolerably well; union appears firm at the upper part; considerable phlegmonous inflammation about the pedicle; ordered the em. terebinth and tr. opii. continued every three hours, and one grain sulph. quina to be added to each dose, and the abdomen covered with a poultice of flax-seed meal, after being rubbed with ol. terebinth; care being taken not to get any of the oil into the wound; gave fl. ext. rhei. and senna, 3ij. Monday, 3d Nov., 8.30, A.M., patient rested tolerably well through the night; pulse 116; abdomen very much distended; wound firmly united at the upper part, but looking unhealthy about the ligatures; cut the ligatures, and removed two of the needles; a serous discharge followed the withdrawal of the needles; ordered beef-tea and milk-punch freely: pinned a bandage tightly around the abdomen; she does not complain of pain upon pressure; repeat fl. ext. rhei. et. senna. 12, M., abdomen enormously distended; patient restless: pulse 120; gave enema, which brought away a large amount gas, which much relieved the distention of the abdomen; repeat the rhei. and senna. 6, P.M., pulse 120; distention very great; applied adhesive-straps to support the wound; complains of no pain or tenderness: bowels have not moved; ordered enema, which only brought a discharge of gas; gave 12 grs. calomel. Tuesday 4th, 8.30, A.M., bowels have

not moved; pulse 116; only complains of the distension of the abdomen; ordered bot. citrate magnesia. 2, P.M., the bowels not having moved, gave enema of ol. terebinth, which produced a free movement of the bowels, with discharge of a large quantity of gas, almost entirely relieving the abdominal distention. 5.30, P.M., patient expresses herself as "almost well;" pulse 108; skin cool; ordered injection, repeated in three hours if the bowels do not move again in the meantime; continue milk-punch and beef-tea, and give tinct. opii. 30 gtts., after the bowels move again. Wednesday 5th, 9, A.M., the injection last evening produced a complete collapse of the abdominal wall; patient slept nearly all night,—is very comfortable this morning; pulse 106; no pain, no tenderness, except at seat of wound. 5, P.M., improving steadily. Thursday 6th, 8.30, A.M., pulse 100; no unpleasant symptoms; wound around the pedicle discharging freely; takes considerable nourishment. Friday 7th, same as above. Saturday 8th, removed the remaining needle which transfixed the pedicle,—ligature firm. Sunday 9th, wound looking well; patient looking and feeling very well,—appetite good.

Case. II.—I was called, Nov. 5th, 1862, to see Miss P., aged 20 years, at Eleroy, Illinois, suffering with ovarian dropsy. There had been nothing remarkable in the condition of her health, although of rather spare and fragile form, until February last, when she first observed a tumor almost the size of an orange, in the right iliac region. Her menses ceased to make their regular appearance about the same time. The tumor had grown quite rapidly; and she had suffered for several weeks severely from pressure. At the time of examination, she seemed larger than most women at full term of pregnancy. The patient was examined by, and in consultation with, Drs. L. A. Mease, B. J. Buckley, F. W. Hance, E. C. De Puy, and John Charlton, of Freeport, Dr. R. Hays, Lena, and Dr. J. A. Darling, of Eleroy. It was unanimously decided that the tumor was multilocular, and as it had grown so rapidly, and the patient had begun to suffer from its great size,—she could not long survive, if not relieved,—that extirpation was the only

means of cure advisable, and that owing to the probabilities of a large portion being solid, and the existence of adhesions, the chances of success were less than ordinary. The conclusions of the consultation being submitted to the patient; with a heroic determination, that I think had much to do with her recovery, she begged us to give her what she considered the only chance of escape from a lingering and sure death. With the assistance of the above-named gentlemen, the operation was performed in the following manner:—After anesthesia was induced by chloroform, an incision in the linea alba, midway between the umbilicus and symphisis pubis, about two inches long, exposed the tumor and evacuated several pints of peritoneal effusion. Upon introducing the finger to survey the tumor, some slight adhesions were torn through. A large trochar was next plunged into one of the presenting cysts, as no fluid flowed out of the canula, it was withdrawn. Attached to it was a thick glutinous semi-fluid, that was so tenaceous as to admit of being drawn into a string, two feet long. It was evident that the contents of these sacs could not be thus evacuated. The external incision was enlarged until it was about five inches in length. The abdominal walls pressed closely against the tumor; a free incision made into the cyst, and the contents, almost as thick and dark as tar, pressed out. The same procedure was repeated upon several sacs, until the size of the tumor was considerably decreased. Upon drawing the partially, collapsed tumor forward, and examining its sides, firm and extensive adhesions were discovered in every direction in which the examination was pushed. Much of them gave way under the fingers, by using considerable force; there were, however, firm bands of fibrin, from two to three fingers wide, two of them were far around toward the spine, which, on account of their firmness, had to be separated by the ecrasseur, The external wound was again enlarged upward, until it was about nine inches in length, and the tumor lifted out of the abdominal cavity. After passing a double hempen ligature through the centre of the pedicle, and securing it by tying each side firmly as possible, the chain of the ecrasseur was passed through it, close to the tumor, and above the ligature. Owing to the

careful attention of the gentlemen present assisting, very little of the contents of the sacs, and probably, no blood found their way into the abdominal cavity. The external wound was now closed by four pins and several silver sutures. The stump was transfixed, and retained in the wound with its surface even with the external surface, by the pin nearest the pubic extremity of the cut. I should have before stated, that the great omentum which lay on the upper part of the tumor, was adherent throughout the whole extent of contact, but these adhesions were so feeble that they gave way under pretty smart force exerted by the fingers for the purpose.

Very little blood was lost: and the patient bore this terrible operation without any appearance of shock or depression whatever. The time occupied in completing the operation and dressing, was forty-five minutes. A compress wet with water was placed over the wound, and secured by a broad flannel binder. The tumor with its contents weighed 30 pounds. After witnessing the extensive adhesions, peculiarity of contents of the tumor, &c., all present joined in expressing the opinion that recovery was hardly to be thought of as a possibility. It will be noticed, that in these two operations, although as great care as practicable,—on account of the difficulties of the case,—was observed in avoiding extravasation or effusion in the peritoneal sac, no effort by sponging or wiping among the intestines, was made to remove any substance that did escape. Such was the case also in the first operation I ever performed; and I cannot but express the conviction, that the amount of ovarian fluid should be very considerable or acrid in quantity, to justify the rough operation of sponging it out. The notes of the case, after the operation, were kept and forwarded to me by Dr. J. A. Darling, of Elcroy, and I have not altered them, believing them to be a faithful exhibit of the progress toward a cure. Although somewhat lengthy, they show but one interesting circumstance, which is, that "our patient" recovered from the effects of the operation without a single bad symptom:—

Operation finished Nov. 5th, 12.30, P.M.: pulse feeble, and 120 per minute; countenance pale; nausea and vomiting from

effects of chloroform; complains of pain in back; took teaspoonful of tinct. opii. 2.30, P.M., nausea continues; less pain in back; lies on side, disposed to doze; pulse 120, good volume; natural color returning to face; respiration 40 per minute. 5 o'clock, P.M., pulse 112, full and soft; resting well; respiration 40 per minute; complains of pain in back; some thirst; took teaspoonful of tinc. opii., which was immediately rejected; 7 o'clock, P.M., pulse 104; nausea; skin cool, soft, and natural; ¼ gr. morphia, which was immediately rejected; complains of pain in back; slight desire to urinate, which was relieved by catheter; has slept some last two hours. 8 o'clock, P.M., pulse 120: more urgent nausea, otherwise comfortable; ¼ gr. morphia immediately rejected. 8.45, P.M., ¼ gr. morphia retained. 10 o'clock, P.M., ¼ gr. morphia; some restlessness. Nov. 6th, 2 o'clock, A.M., ¼ gr. morphia; dozing. 5 o'clock, has slept some; ¼ gr. morphia; pulse 125; desire to urinate, relieved by catheter. 8 o'clock, A.M., pulse 118; skin cool, soft, and natural; ¼ gr, morphia; some nausea. 10 o'clock, A.M., ⅓ gr, morphia. 11 o'clock, pulse 120; inclined to doze. 1 o'clock, P.M., skin moist; breathing good; pulse 120, and soft. 1.15, P.M., removed bandage,—wound looking healthy; no pain or tenderness; desire to urinate, relieved by catheter; pulse 108; 1 gr. opii. (Tilden's preparation;) skin soft and cool; no nourishment taken. 3 o'clock, P.M., took a little crust coffee. 3.45, P.M., 1 gr. pill opii., with crust coffee for drink; inclined to doze. 5 o'clock, P.M., pulse 120; complains of back, otherwise comfortable. 5.30, P.M., 1 gr. pill opii.; complains of occasional shooting pains in abdomen; pulse 129. 7.15, P.M., 1 gr. pill opii. rejected. 7.30, P.M., 1 gr. pill opii. retained; inclined to doze. 8.45, P.M., 1 gr. pill opii. 10 o'clock, relieved bladder by use of catheter. Nov. 7th, 6.30 A.M., have given through the night 1 gr. pill opii. every hour and a-quarter; patient has rested well; skin cool; respiration natural; has no pain, except in back.

Nov. 9th. Our patient, thus far, is exceeding our most sanguine hopes. I will continue notes as taken from my book:—

Nov. 7th, 3 o'clock, P.M., pulse 120; tongue, some dry and

red at tip, with thirst; no nausea. 5 o'clock, P.M., saw patient with Dr. CHARLTON; commenced the use of ess. beef, which relishes well; removed bandage,—wound looking well; have decreased the opii. to 1 gr. every four hours; tongue dry and slightly coated. Nov. 8th, 3 o'clock, A.M., patient resting well; tongue more natural; pulse 135. 7 o'clock, A.M., pulse 130. 10 o'clock, A.M., removed bandage,—wound looking good, with very slight suppuration; pulse 130; commenced the use of Tilden's f. ext. veratrum viride, 2 min. every two hours, continuing 1 gr. opii. every four hours; patient cheerful and happy; continues use of beef ess. and crust coffee; tongue moist. Nov. 9th, 8 o'clock, A.M., have continued above treatment through the night,—patient rested well; slight sweating when sleeping; complains some of flatus; gave 3 gr. carb. soda; pulse 110, with all other symptoms favorable; have discontinued use of verat. viride. I would here state that I have emptied the bladder regularly. 5 o'clock, P.M., saw patient with Drs. BUCKLEY and CHARLTON; removed bandage,—wound looking healthy; slight suppuration,—healing mostly by first intention; pulse 120; tongue moist; skin cool. Nov. 10th, 7 o'clock, A. M., patient has rested well through the night; pulse 120; tongue slightly dry; has no pain; have given through the night opii. as usual, with verat. viride every four hours; patient feels well and cheerful,—thinks she has grounds for hope that she will recover; there is but slight distention of abdomen.

Nov 12. Our patient is prospering finely; thus far, everything looks favorable for a recovery. Her pulse, this morning, is 84; tongue moist and clean; the only disagreeable symptom is wind in the bowels. I moved them yesterday, and shall give another injection this morning. I have continued treatment with opii. and verat. viride, the same as at first, also anise-seed tea. I am giving her all the nourishment she will take, in a liquid form.

Nov. 14th. Our patient is still doing well, has no fever, nor any unpleasant symptoms. I have moved the bowels: I used simply an injection of soap-suds, with a little turpentine. She begins to eat toast and some roast potato, with a good supply

of beef essence. The wound is looking well. The superior one-half is entirely healed. I have removed one pin and two sutures, shall remove one pin to-day. I have continued treatment same as formerly.

Nov. 17th. Our patient is gaining as fast as could be expected. The wound is healing gradually, the superior one-half is entirely closed, the other is suppurating some. I have removed two of the pins and the three sutures, the others I shall allow to remain for a few days. I am treating her now with opium and quinine, 1 gr. each, every four hours. Her pulse is about 110 per minute, soft; tongue clean and good; skin soft and moist; and all appearances favorable. We have strong hopes of a recovery; I am giving her plenty of nourishment.

Nov. 19th. Our patient is gaining as fast as we could hope for,—she begins to have an appetite for food. I am continuing treatment with opium and quinine; the wound is healing slowly. I have not removed the two lower needles, yet the stump looks well. I have moved her bowels with injections about every other day, they have moved once without any medicine whatever. I see nothing to hinder a favorable termination.

Nov. 22d. Dear Sir:—Your favor of 19th was duly received. I will first answer your questions:—1st. There has not been any hemorrhage whatever from the stump or wound. 2d. There has not been distention of the abdomen at any time of any account, she only complained one day of flatus.

She is now getting along as well as could be asked for: has a good appetite, feels cheerful, and says she wants to sit up. I have removed three of the pins: I thought it was best to allow the lower one to remain for a few days, yet the stump is about on a level with the abdomen. I am giving her quinine with reduced doses of opium.

February 14th. Both patients have completely recovered from the operation, and are in good health.

ARTICLE V.

OVARIAN PREGNANCY.

By R. B. TREAT, M.D., of Janesville, Wis.

On the 14th of May, 1860, I was solicited to visit Mrs. H., a highly respected, married lady of this city, about 37 years of age, and the mother of several children. I found her much reduced from uterine hemorrhage, which still continued. She supposed herself two months advanced in utero-gestation, when the flooding came on. She also concluded that the fœtus had been expelled, but not the placenta.

Not being satisfied that either had been expelled, I made a careful examination: found the uterus larger than in the unimpregnated state, but in the natural position, cervix shortened somewhat, and the os uteri slightly dilated, but impervious to the finger, consequently, I prescribed the usual remedies for flooding, with rest, and the recumbent position. The hemorrhage gradually ceased, but severe pain continued in the left iliac region, extending down the inner side of the thigh of the same side. Bowels constipated, abdomen extremely tender and tympanitic, precluding a satisfactory external examination. Slight chills, and fever of a remittent type followed. The conjunctiva was deeply tinged with bile; and the entire surface of the body presented a peculiar sallow hue. Under an alterative and tonic treatment, all these symptoms yielded readily; and in two weeks, she was about the house overseeing her household duties.

On the first day of June, I was called again, as she had had some flowing during the night, while using the vessel. It having ceased, I made no vaginal examination, but left particular word that should it occur again, to save the fluid for my inspection, so that I might determine its character. I saw her every day or two, until the 8th day of June, as the pain and fever returned as before. These symptoms subsided in a few days under previous treatment. I did not see her again until

the first of July. Several days previous, she experienced much difficulty in voiding urine, and the bowels were obstinately obstructed, which symptoms still continued. I found that the mammary glands had increased in size, and were quite sensitive. The areola was discolored,—papilla prominent. Morning sickness had been present two or three weeks; and the abdomen had gradually enlarged. An examination, par vaginum, detected the cervix uteri high up under the pubic arch, and materially shortened; and the fundus of the organ, I concluded, lay in the hollow of the sacrum. The case now presented to me every indication of pregnancy with retroversion uteri, consequently, I attempted to replace the uterus to its natural position, but was unsuccessful, as the sequel will show. On the 5th and 9th of July, I renewed the effort to replace the organ, but failed. I was now undecided, whether it was a case of pregnancy with retroversion, or extra uterine pregnancy.

I explained fully to her the danger attending in either case; and as she was able to be up, I advised a nourishing, easily digested diet, rest and quietness of mind and body; fully determined if it should be pregnancy with retroversion to interfere at the proper time. The difficulty of voiding urine continued, but the catheter was not required. The bowels were relieved daily by enemas.

I saw the case again on the 2d of August, she having had a sanguineous discharge from the vagina of nearly one pint at once, which produced syncope. Upon enquiry, I found that she had been at work several days, contrary to advice. She said that she had been in usual health, and thought it could do her no harm. Upon examining the fluid, and from all the attendant symptoms and circumstances, I became satisfied the case was one of pregnancy outside of the uterus. The parts and position of tumor were unchanged, although enlarged. The uterus could also be detached in the right iliac region, into which I introduced a sound, which plainly evidenced the fact that the organ had no connection with the tumor, confirming my opinion, that it was really a case of ovarian pregnancy. From the firmness and extent of the adhesion, that I concluded

must exist, and her debilitated condition. I saw no relief, not even from surgery. She remained in about the same condition, when she was again attacked with pain, attended by frequent discharges of a bloody serum. I had frequently requested counsel, but they did not desire it; but now, at my urgent request, two or three physicians were called in, who, after making all proper examinations, pronounced it a case of pregnancy with retroversion uteri, until I introduced the sound and showed them the relative position of the uterus and the tumor.

One of the three only, failed to coincide in the diagnosis: and in an attempt to replace the supposed retroverted organ, (against my urgent request,) the cyst was ruptured, and a large portion of its fluid contents passed into the peritoneal cavity, producing death in a few hours. The case being new to me, and rarely met with by the profession, I solicited and obtained the privilege of making a *post mortem* examination, which I performed ten hours after death.

Appearances:—Decomposition had gone on rapidly, and, of course, the abdomen was largely distended, which, on being opened, was found to contain several pints of fluid, of a sanguineous character, not unlike the discharges previous to death, and evidently a portion of the contents of the cyst. The rupture in the cyst was small, and about the centre of it. The adhesions below, were nearly five inches in diameter, and very firm. The half of the fallopian tube, including the fimbriated extremity, was incorporated in the tumor, and might, possibly, account for the flow from the uterus, before death. The canal in the tube was increased in size. Upon opening the cyst, which seemed to be the membranes of a proper pregnancy, thickened and much firmer; a fœtus of six months with placenta, and nearly a quart of bloody serum and some coagula were discovered. The entire cyst and contents were now removed and examined, presenting all the appearances, in every respect, of a proper uterine development. The fœtus was also far advanced in decomposition, which must have taken place within two weeks, as the symptoms of pregnancy remained prominent up to that time. The uterine walls were much thicker

than in the unimpregnated state, and very flabby. The cavity also much larger, but contained no fluid. The uterus had no attachments to the tumor, except by the left fallopian tube. The ovary of the right side natural and healthy. I concluded that cases of this kind are seldom met with in long years of practice, at least, I deem such to be the fact, for it is my first; and I am quite confident none have occurred in this vicinity in the practice of any other physician in the past fifteen years. I concluded, therefore, to write more fully the history, symptoms, and fatal termination of this case. It gave me much anxiety, and required much study and thought in determining its true character.

Some readers may conclude that a correct diagnosis should have been arrived at much easier; but, if any such there be, who shall be so unfortunate as to meet such a case, they will find it no easy matter; and if the above truthful and unreserved report shall aid any one in forming a correct conclusion in a case so infrequent in its occurrence, I shall be content.

ARTICLE VI.

LIGATION OF THE FEMORAL ARTERY, TWENTY DAYS AFTER BEING WOUNDED.

By R. B. TREAT, M.D., and AMOS S. JONES, M.D., Janesville, Wis.

Reported for the Chicago Medical Examiner.

On the 2d of Jan., 1861, we were requested by Dr. COVERT, of Clinton, Wis., to see with him Alfred Lee of Manchester, Ill. From Dr. COVERT, the attending physician, we obtained the previous history of the case as follows:—

On the 13th of Dec., 1860, while said Lee was standing by a bench cutting pork with a large dirk-pointed knife, with the edge and point inclined obliquely downward and toward him, the point of the knife glanced from the meat, and forcibly struck his leg, over the junction of the femoral and popliteal arteries, inflicting a wound an inch in length and deep enough

to wound the artery. Profuse hemorrhage immediately ensued, causing almost fatal syncope. The coagula, and a compress, and roller, applied by a neighbor, arrested the hemorrhage almost entirely; and after an hour and a-half his consciousness returned, with scarcely perceptible pulse, skin perfectly blanched, and almost total prostration. Dr. COVERT first saw the case nine hours after the accident, and did not deem it advisable to disturb the wound. He directed tonics with a little stimulant, and occasionally an aperient, with easily digested and nourishing diet, and rest and quiet in a recumbent position. On the 19th, he was called in haste to see Lee, by a messenger, who stated that he was bleeding to death. (Lee lived five miles from Dr. COVERT.) A travelling quack, (and we have several in this vicinity, besides resident quacks,) had seen the case, and promised to fix the wound all right with puff-ball, &c. The hemorrhage was again very profuse, occasioned by removing the compress and roller, fussing with the puff-ball, &c., on the part of the quack. He, however, succeeded by puff-ball and pressure in checking the bleeding partially. This time long continued syncope was produced; and it was surprising that he did not die. When Dr COVERT arrived, he applied a firm compress and roller, which controlled the hemorrhage most of the time, and occasionally a little turpentine was poured on the compress. Thus matters passed along several days longer. Dr. COVERT saw the case again on the 22d, and desired counsel; and an old physician from Beloit was obtained. He was informed of all the history of the case to that time; and from it, and the appearance he saw, he decided that no artery was wounded, and advised the continuation of Dr. COVERT'S previous treatment. The case passed along several days longer with occasional hemorrhage, the leg swollen in the region of the wound, the patient unable to move in bed, exhibiting an unusual tenacity to life; iron, quinine, and other tonics, and sometimes stimulants with appropriate diet were given him; but the wounded artery would not heal!

Dr. COVERT, not satisfied that the patient and wound were doing well, desired other counsellors, and sent for us to visit

the case, which we did by the first train. We found the man extremely reduced. He could not communicate above a faint whisper, could not raise his hand in bed, and presented the most cadaverous appearance we ever beheld in a living human being. The leg (right) was edematous, but not very badly swollen, except in the vicinity of the wound. The temperature was much lower than natural, yet did not require the constant application of artificial heat. The pulse was scarcely perceptible at the wrist, and was wirey and quick. The body was very much emaciated. The whole region about the wound, for the space of six inches in every direction from its centre, was perfectly infiltrated and firmly impacted with pus, serum, and coagula, presenting a very disagreeable appearance, and not at all promising in regard to saving life, and much less the limb. He and his friends implored us to save his life and limb, if possible. We told them the chances were strongly against him, and that most probably he would die in the operation, either of ligating the artery or amputating the leg. There seemed to us no doubt but that the femoral artery was either wounded or severed. From the fact of the circulation being so good, under the circumstances, in the leg, below the wound, we judged that if he survived the operation of tying the artery, his leg might possibly be saved.

We decided to ligate the artery just above the wound, so that in case amputation should be required in future, we might have a sound artery to tie, and also, which was of more immediate importance, that the circulation in the leg, below the wound, would be as little as possible interfered with. It was now dark; and we began and completed the operation with the illumination produced by two of the poorest kind of dipped tallow candles:—The patient was moved to the edge of the bed,—leg a little flexed, and held by an assistant; no anesthetics were administered. The artery was compressed over the pubis by assistants, when we proceeded to clear out the wound as much as possible; and removed over a pint of coagula and other matter from the wound and its environs before making any incision. We then made an incision four inches in length, extending from the

wound upward or toward the body, and in depth to the outer edge of the sartorius muscle. Then followed an interesting (?) search for the femoral artery, such an one as we desire not to be obliged to make again. The tissues were so changed by abnormal deposit, destruction, and discoloration, the incision so deep, the oozing so constant, the circulation so feeble, and the light so poor, that in the discovery and ligation of the femoral artery at this point, about two inches above the wound; and, under the existing circumstances, we congratulated ourselves that we had performed one of the most difficult operations of surgery. We had no medical assistant besides Dr. COVERT. The compression of the artery was no light task, and was a poor remedy for numb fingers and thumbs.

But at last success crowned our efforts. The patient complained very little and scarcely moved a muscle during the whole operation, and bore it with fortitude and patience almost superhuman. Very little blood was lost during the operation; and after dressing the wound, and giving him a drink of whisky, he felt extremely well. After giving directions in regard to medicine and diet, we departed for home. We saw no more of our patient until about six weeks afterwards, he came into our office in tolerable health and strength, full of gratitude for our benefactions. We saw him again in two or three months, in perfect health, and looking tough and rugged. There was no lameness or weakness of the leg; and he is alive and sound now, so far as we know. His age was about 27, is a farmer, and was then unmarried.

We give below the principal treatment and condition after the operation, as given by Dr. COVERT:—

January 4th.—Some diarrhœa; pulse very feeble; wound very offensive; sloughing extensive. Gave geranin for diarrhœa. For tonics.—Ferri. mur. tinct., quina., and nourishing diet, with occasionally a stimulant of brandy. The wound was washed with a solution of potas. chlo. and hydrastin, and dressed several times a day, also wet with arnica liniment. This treatment mainly was continued to the time of his recovery.

The ligature came away on the 15th day after the operation.

The wound was healed by the 20th day. Feb. 4th.—Began to use his leg in locomotion. In a week or two after, was walking about with perfect facility. There was very little difference in the appearance of his legs three months afterwards, except the cicatrix.

We have dwelt thus lengthy, and, perhaps, tediously, on the report of this case, because we regarded it a remarkable recovery after such profuse hemorrhage, and the lapse of so long a time from the accident to the ligation of the artery; but all praise is due to the vis medicatrix nature, analeptics, patience, and hope.

Janesville, Wis., *Feb. 26th*, 1863.

ARTICLE VII.

NEW ISINGLASS ADHESIVE-PLASTER.

By E. ANDREWS, M.D., Professor of Surgery in the Chicago Medical College.

The adhesive-plasters in use, consist, almost exclusively, of two kinds: the emplastrum adhæsivum of the pharmacopœia and the isinglass plaster. The advantages and disadvantages of these articles are the following:—

1st. The emplastrum adhæsivum of the pharmacopœia:—This long used plaster has the merit of being strong and cheap. Its disadvantages are, that the turpentine in its composition is apt to irritate and even blister delicate integuments. If it is kept on hand too long, it becomes dry and will not adhere; and in military practice, if the weather is cold, the impossibility of warming the strips on the field, renders the article worthless. The common idea, that it resists moisture, on account of its resinous composition, is erroneous, as it loosens from the skin with the steady application of water, as entirely as any isinglass.

As an improvement on this old standard article, we have several varieties of isinglass plaster from different manufacturers. These differ somewhat among themselves, but are all essentially

alike in appearance and use. They, apparently, consist of some form of gelatine applied to a thin, delicate slip. The plasters thus made, are thin, transparent, and adhere well. Their advantages are, that they are extremely elegant, on account of their delicate transparency, that they do not change by keeping, that they adhere readily and quickly by simply moistening the surface without requiring heat, and can be as readily removed by application of water again. Moreover, they do not irritate the most delicate skin. These qualities fit them admirably for all the lighter operations of surgery; but for the heavier work, such as extension and counter-extension in fractures of the femur, and strapping in fractures of the clavicle, they are entirely worthless, for the following reasons:—

1st. The material on which the glue is laid is too fragile, and has not strength enough to sustain the tension required.

2d. The articles, as now sold, are in two small pieces. The rolls are about nine inches wide, and purport to be a yard long. but are, generally, by the villany of somebody, found to be short of even that small measure. For adhesive-strap dressing of the clavicle, two strips are required, each two and a-half inches wide and one and a-half yards in length; and for adhesive-strap counter-extension, according to my method, in fractures of the femur, two strips are required, each two yards in length and three inches in width, besides the extension-straps and the belt-strap. No such strips can be cut from the articles now sold, except by piecing them together.

3d. The expense of the article is very heavy. These little miserable patches of plaster, each one less than a-quarter of a square yard in area, are retailed to physicians at the extortionate price of a dollar each. Now, even if it were possible to use them in heavy surgery, the cost would be a serious objection. A quantity sufficient to make a solid adhesive-strap extention and counter-extention on an adult fractured femur, would come to, at least, three dollars.

For these reasons, I have requested several apothecaries to produce a new article, which should have the strength and cheapness of the old plaster, with the advantage of the gelatine surface.

Mr. Dillingham, of State Street, has been kind enough to carry his experiments to a successful issue. He has produced an article of gelatine-plaster laid on linen, which is in large rolls of about the same width as the old emplastrum adhæsivum, and which he sells at the extremely low rate of twenty-five cents a yard, being by far the cheapest and best article in the market for heavy surgical work. This plaster has strength enough for any purpose required, and adheres to the surface with unequalled tenacity. It is also perfectly adapted to the closure of ordinary incised wounds, and to every other purpose that any plaster serves. It combines the following advantages, viz., cheapness, strength, adhesiveness, and freedom from irritation.

As it is not a patent article, and there is no secret about its composition, I trust that our large manufacturers will, by and by, come down from their high stilts and consent to produce for the profession some similar preparation, capable of being used for the work we have to do, and at a price which is less preposterous than what we have heretofore paid.

The Clinique.

MEDICAL WARDS OF THE MERCY HOSPITAL.

DROPSY, AND THE PATHOLOGICAL CONDITIONS THAT GIVE RISE TO IT.

By N. S. DAVIS, M.D., Attending-Physician.

Read before the Chicago Medical Society.

During the recent course of clinical instruction in the Mercy Hospital, a series of cases were presented to the class, which strikingly illustrate both the various pathological conditions giving rise to dropsical effusions, and the differences in the location and progress of such effusions. Excluding hydatids, or cystic dropsy, we may arrange all other cases into three classes, viz.:—1st. Those that arise directly from inflammation;

2d. Those dependent on mechanical obstructions in some part of the vascular system; 3d. Those arising from alterations in the blood.

Of the first class I shall not speak at present, although we have on our list two very interesting cases,—the one of pleurisy, and the other of pericarditis, both accompanied by copious serious effusion.

The second class of cases, includes all such as depend on mere mechanical obstruction, whether from the pressure of tumors, the gravid uterus, ligatures, fibrinous coagula, diseased valves, or enlarged viscera. But those of chief interest, arise from either valvular disease of the heart, or from diseases of the liver and spleen.

Case I.—Mrs. J., an American woman, aged about 50 years; was admitted into the medical wards of the Mercy Hospital in October, 1862.

She was considerably emaciated; countenance expressive of anxiety, with a slight œdema of the eye-lids; pulse 85 per minute, small, and moderately firm; tongue clean; bowels regular; appetite fair, but digestion imperfect; secretion of urine very scanty, becoming turbid after standing, from an excess of phosphatic salts, but yielded no evidence of containing albumen or sugar. Her respiration was short, and accompanied by a sense of oppression, which was so much increased by the recumbent position, that she maintained the sitting posture all the time, both night and day. The cellular tissues of the lower part of the body, and the whole lower extremities, were greatly distended with œdematous infiltration. A small amount of effusion had also accumulated in the cavity of the peritonium. The œdema of the legs had existed several months; and the over-distended skin on the calves of the legs had become broken, and the serum was escaping in such quantity as to keep the feet and ankles constantly wet.

On making a careful physical examination, no evidence of disease was found in any of the abdominal viscera; but over the cardiac region, there was increased extent of dulness, and a loud, rough, bellows murmur, covering all the space between

the first and second sounds of the heart, showing plainly diseased valves with hypertrophy of the heart. On tracing the history of the patient, it was evident that the cardiac disease, in this case, originated at least ten years previous, from an attack of sub-acute rheumatism. It will be observed that the dropsical effusions, in this case, were most marked in the parts most distant from the heart, and most dependent; and this is true of all cases dependent on mechanical obstruction in the central organ of the circulation.

CASE II.—Mrs. C., born in Ireland, the mother of several children, was admitted into the Mercy Hospital in December, 1862; aged about 38 years.

At the time of admission, she was emaciated; countenance expressive of sadness or despondency; face pale: lips and, indeed, skin generally bloodless, presenting a strongly anemic look; skin cool; pulse soft, and about 90 per minute; respiration shorter and quicker than natural; poor appetite, and food often becoming sour, and sometimes being rejected; bowels irregular, being sometimes costive, and sometimes too free; urine very scanty, and depositing a large amount of phosphatic and lithic acid salts, but containing no albumen. On examining the abdomen, it was found greatly distended by an accumulation of serous fluid in the cavity of the peritoneum, accompanied by a considerable enlargement of the liver and spleen. There was no tenderness or other indications of inflammatory action. For the last few days, the ankles have been also slightly œdematous: aside from which, the dropsical appearances are confined exclusively to the abdomen. There were no signs of disease in the viscera of the thorax or pelvis.

The history of this case showed, that the patient had been attacked with intermittent fever during the past summer, which was somewhat protracted and accompanied by pain in the hypochondriac regions, and much disorder of the digestive organs. Although the intermittent paroxysms ceased, and have not returned during the last three months, yet she did not acquire good health. Her bowels were more or less costive; digestion imperfect and flatulent; muscular weakness; countenance sallow; and urine scanty and turbid.

About six weeks since, the abdomen began to enlarge, and has steadily increased until attaining its present great distension. In this case, it is evident that the dropsical effusion is chiefly the result of direct mechanical obstruction to the portal circulation, by the enlargement of the liver; and, hence, instead of the dropsical effusion being controlled by distance from the heart and gravitation, as in Case I., it is limited to the cavity containing the distribution of the obstructed bloodvessel; and no mere change of position of the patient produces any change in the location of the effusion.

Case III.—Mr. W., an American, aged 43 years, was admitted into the Mercy Hospital, Nov. 30th, 1862. He was somewhat addicted to the use of intoxicating drinks, and eight or nine months previous to admission, had been exposed to a thorough wetting and cold, which was followed by some pain in the right side, and slight fever. These symptoms lasted only a few days, but they were followed by indigestion, flatulency, constipation, and general feelings of ill-health, but not sufficient to confine him to his house. About six weeks since, he noticed the commencement of some enlargement of his abdomen, which continued steadily to increase until his admission to the hospital. At that time he was considerably emaciated; his lips pale and thin; his pulse small, tense, and about 100 per minute; skin dry and natural in temperature; appetite variable; bowels inactive; urine very scanty, but destitute of albumen; and his abdomen so much distended with fluid as to impede the descent of the diaphragm, rendering respiration short, and producing much uneasiness from mechanical pressure. No œdema of the extremities, or of any part of the cellular tissue. No solid tumor could be felt in any part of the distended abdomen, but the accumulation of fluid in the peritoneal cavity was so great as to render it difficult to define the lower boundaries of the liver and spleen.

By careful percussion, however, a line of tympanitic or intestinal resonance was found to extend transversely across the right hypochondriac and epigastric regions, quite under the margin of the ribs. This showed that the transverse colon was

crowded upward by the fluid in the peritoneal cavity, and occupied the place usually rendered dull by the lower margin of the liver, when of its natural size. This rendered it very probable that the liver, instead of being enlarged, was contracted, or in a state of cirrhosis. Following the line of the colon to the left side, it became more obscure and deflected downwards, as if crowded in that direction by some pressure from above. This fact, together with uniform dulness and general fulness of the left hypochondriac region, left but little doubt that the spleen was moderately enlarged. The results of a careful physical examination, compared with the history of the case, led us confidently to diagnosticate the case as one of well developed *cirrhosis* of the liver, coincidently, with moderate enlargement of the spleen.

The contracted condition of the liver, greatly interfering with the circulation through the hepatic branches of the vena porte, was, doubtless, the immediate cause of the dropsical effusion. Hence, as in Case II., it takes the form of circumscribed dropsy, limited to the abdominal cavity, and is not influenced by change of position, on the part of the patient, or by gravitation. Finding remedial agents to exert very little influence over the progress of this case, and the patient suffering much from mechanical distension of the abdomen, he was tapped by Prof. HOLLISTER, the attending-surgeon of the hospital, and about three and a-half gallons of limpid serum drawn off. In about three weeks, the effused fluid had re-accumulated to such an extent that tapping was again resorted to, and between three and four gallons of fluid again discharged. At about the same intervals, a third and fourth tapping became necessary. Of course, so rapid and copious a drain of serous fluid from the blood, produced rapid exhaustion of the patient. About one week after the last tapping, symptoms of a low grade of peritoneal inflammation supervened, and the patient died in a few days.

Post mortem.—Twenty-four hours after death, a *post mortem* examination was made. On opening the abdomen, about two gallons of turbid serum escaped. The whole surface of the

peritoneum, both that lining the abdominal walls and covering the intestines, was minutely injected, of a dark red color, and covered in patches with a white and partially organized membranous exudation, which possessed so little tenacity, however, that it is hardly proper to say it constituted a bond of adhesion. The spleen was found nearly double its natural size and weight, color nearly natural, and texture firm. The liver was found firmly adherent, at several points, to the ribs and parts surrounding it, as the result of former inflammation. Its color was a shade lighter than natural, and its size diminished nearly one-half. Its entire surface presented a knotted or lobulated appearance, well represented by the section of the central portion of the right lobe, which is here presented for examination. The color has faded by maceration; but the contraction of the lobules, and the "hob-nail" appearance is strongly exhibited. The texture of the organ was firm; and the gall-bladder moderately filled with bile. All other important organs were in a healthy condition. Here we have a well-marked case of cirrhosis, or contraction of the liver leading to the same results, so far as the dropsical effusion is concerned, as in Case II., in which, the same organ had undergone great enlargement. The two cases, though directly opposite in several respects, yet presented in common, the one pathological condition which was the immediate cause of the dropsy, namely, mechanical obstruction in the hepatic branches of the portal vein.

The third-class of cases of dropsy, which arise from alterations in the proportion of the constituents of the blood, we shall illustrate by only one case in detail:—

Case IV.—Mr. M., native of Ireland, was admitted into the Mercy Hospital in January, 1863. He was, naturally, a large, muscular man, accustomed to physical labor. He stated that his health and strength had been failing several months, accompanied by indigestion, constipation, mental despondency, dull pains in the loins, and weakness of the lower extremities. He had been somewhat addicted to the use of alcoholic drinks. About three weeks before he came to the hospital, he began to exhibit a bloated aspect generally; but the swelling was most

marked in the feet and legs, after being up through the day. This swelling, or general œdema, rapidly increased, until he was obliged to take to his bed. On admission to the hospital, his skin was dark, approaching a bronzed hue; surface cool; pulse small, and 95 per minute; mental faculties, apparently, dull; bowels costive; and the whole exterior surface much bloated from œdematous infiltration; but the swelling was much more marked in the parts most dependent.

This was illustrated, not only by the position of the extremities, but the left side of the trunk of the body, on which he had been lying several hours: would pit, on the application of pressure, to the depth of half an inch, while on the opposite side, the pitting would be comparatively slight. There was also a small amount of effusion into the cavity of the abdomen, but none in the chest. The amount of urine secreted was much less than natural, but containing so much albumen, that, on the application of heat or nitric acid, the white flaculent precipitate rendered the whole mass thick in the test-tube. The past history of this case,—the present symptoms, and the condition of the urine,—render it quite certain that the patient has granular disease, or degeneration of the kidneys, frequently called: "Bright's disease." A fair specimen of that form of disease is presented by this kidney, which I have brought for the examination of the Society. In such cases as this, the large amount of albumen constantly being excreted through the kidneys, soon reduces the relative proportion of albumen in the whole mass of the blood, thereby, rendering it much less viscid than natural. When this process of lessening the viscidity of the blood is carried beyond a given point, the relation between it and the capillary vessels is so changed that the physical law of exosseous predominates, and effusion or infiltration of the watery element of the blood necessarily takes place. If, at the same time that the albumen is escaping through the kidneys, the amount of water eliminated through both the kidneys and cutaneous surface is greatly diminished below the natural standard, the relative proportion of the constituents of the blood is so rapidly altered that dropsical symptoms may be developed in twenty-

four or thirty-six hours; as we see following sudden congestions of the secreting structure of the kidneys from exposure to cold and wet, and during the convalescence from eruptive fevers. But the viscidity or density of the blood may be as much diminished by a loss of red corpuscles as by the escape of albumen. Hence, excessive hemorrhages, suppressed menstruation, diseases of the spleen, and the influence of malaria, are all capable of, so far, diminishing the proportion of red corpuscles, as to develop general dropsical effusions.

Thus far, we have directed attention to the essential pathological conditions producing dropsy, either by obstructing the natural flow of the blood, or by changing the relative proportion of its constituents; but in a therapeutic aspect, it is almost equally important, that we appreciate correctly the condition of the vital properties of the solid textures. Diminution of vital affinity,—that property by which the organic atoms of the various tissues are held in proper proximity and relationship with each other,—necessarily diminishes the tonicity and contractility of all the muscular, vascular, and secretory structures; and, hence, not only retards secretion and capillary action, but directly favors permeation of tissues or dropsical effusions. The presence of this pathological condition of the solids in many cases of dropsy, led the older writers to divide all dropsical effections into two classes, viz.: sthenic and asthenic, or active and passive; and though subsequent pathological investigations have rendered the ancient classification obsolete, they have by no means diminished the necessity of appreciating the general condition of the vital properties as carefully as the more local lesions, if we would direct the treatment with the highest degree of success. This was well illustrated in the treatment of the second case, already related. The dropsical effusions being regarded as dependent on the enlargements of the liver and spleen, coupled with considerable impoverishment of the blood; she was treated, for three weeks, by mercurial alteratives, iodine preparations, diureties, and quinine, with very little benefit; indeed, these remedies entirely failed, either to increase the secretion of the skin and kidneys, or to materially reduce

the viseeral enlargements. Suspeeting the diffieulty to arise from loss of tonieity, or, more properly, vital affinity and eontraetility in the eapillary and secretory struetures, we direeted her to be put upon the use of stryehnine and eitrate of iron, in doses of one-sixteenth of a-grain of the first with three grains of the last, four times a-day. Very little ehange was observable during the first three or four days; but by the middle of the seeond week, after eommeneing this treatment, it was found that the patient was urinating freely, the dropsieal appearances were much diminished, and her strength improved. The same treatment was eontinued; and in four weeks the patient had entirely recovered,—there remaining neither dropsieal effusions nor viseeral enlargements.

The important practieal inferenees to be drawn from the foregoing eases and observations are: 1st. That dropsy is, in a pathologieal sense, not a disease but a symptom direetly dependent on either inflammation, meehanieal obstruetion of blood-vessels, or altered eomposition of the blood. 2d. That the two latter conditions may arise from a great variety of primary pathologieal ehanges, both loeal and general. 3d. That all rational treatment of dropsieal symptoms must depend on a elear appreeiation of the primary pathologieal ehanges from whieh they have originated, eompared with the general eondition of the vital properties or forees.

We might illustrate these positions by a great variety of elinieal eases and faets, but the details would doubtless, be tedious to the Soeiety.

A NEW SOLID BANDAGE has been reeently eontrived by Dr. Hamon. The material is gelatine, or eommon glue, to whieh, after being dissolved in water, a portion of aleohol is added. The limb is then padded, in parts where eonsidered desirable, and a bandage applied. This bandage is then brushed over with the solution, and allowed to dry: the proeess being repeated until sufficient thickness is obtained. If then eut open at the side, a stiff but suffieiently elastic sheath is formed, whieh fits the limb, and ean be removed and replaeed at pleasure.—*Brit. Med. Jour.*

Selections.

CAMP FEVER, ALIAS SCORBUTIC FEVER.

By ALEX. McBRIDE, M.D.

I do not propose in this article to give the entire pathology and therapy of camp fever; to do so would require more experience and ability than I have attained to. But as the subject is chiefly important in army practice, and as I have not yet seen any treatise upon it, giving its peculiarities, I think those having had experience with it should promulgate what they know about it, so that such knowledge may be useful while the war lasts, for it is a disease which we will see but little of in civil practice.

Camp Fever.—By this designation, I mean a febrile disease which is met with in those persons who have for some weeks or months lived upon the diet and been exposed to the vicissitudes of army life; a fever which in some respects resembles the typhoid fever of Louis, Zenner, Watson and others, the ENTERIC fever of Wood; and which has been so well described by these authors. Tenderness of the abdomen, with tympanitis, and a dry brown tongue, with febrile reaction, and a peculiar diarrhœa, are the group of symptoms, which, with the rose-colored spots, are diagnostic of enteric or typhoid fever.

Camp fever is frequently ushered in with slight chills, frequently repeated for several days, the pulse, generally at least, accelerated from the first. The diarrhœa is full as constant an attendant as in typhoid fever, but tympanitis is neither constant nor frequent. Abdominal tenderness is not so constant as in enteric fever. The tongue is more often large and broad than otherwise, and *always fissured from the first.* The fissures are both *transverse* and *longitudinal* generally, and when the tongue is moist, as it is sometimes, or when it is artificially moistened, the margins of the fissures or cracks have a macerated look, as if penciled with milk and water. This is a very common and peculiar appearance in the advanced stage of the disease. *The fissures are plainly to be seen throughout the whole course of the disease.* It is the first sign of the disease and the last one; it is seen before the patient gives up that he is sick, and it is still to be seen when he is convalescent. These fissures are frequently to be seen in out-door patients who never take to

bed with the disease. The cracks of the tongue in enteric fever seem to be dependent on dryness, and are little or not at all perceptible when the tongue is not dry, and disappear entirely as the disease declines.

I have said the fever is frequently ushered in by repeated slight chills. I think this is generally so, but it is difficult to say always how it does begin; for many, if not most cases, have fever tolerably well established when we first see them, especially in the hospitals; but, after having seen the sick soldier in nearly every imaginable condition of camp and field service, I am of the opinion that the inception of what may with propriety be called camp fever is attended with chills. The attending headache is similar to that of enteric fever, but less violent. The urine is diminished in quantity and heightened in density and color, and when the diminution is great there is delirium. This is a circumstance worthy of note. The delirium then would seem to arise from uræmic poisoning, and not from inflammation of intestinal glands, of which there appears to be little or no evidence. The patient generally has appetite for food through the whole course of the fever, and especially for vegetable and acidifying food, and for sour drinks; he not only has appetite, but the food is well borne when prudently prepared and administered. An old physician of much experience in treating fever said, soon after commencing duties in a military hospital, "I never saw men with fever eat so. They eat more like woodchoppers than like sick men." For this reason the semi-liquid stools are copious, and contain the detritus of food as in common diarrhœa.

Now in enteric fever, the patient frequently has some relish for certain kinds of food, from the first, and I believe generally after the first week, but his appetite for it is not strong, neither can he bear much quantity. The kinds best relished and best borne, according to my experience, are *liquid forms of azotized food*, the opposite of that relished and borne in camp fever. But these relishings are probably variable in enteric fever, according to the previous habits or diet of the patient.

In camp fever proper, we do not find the rose-colored spots as in the enteric, but toward the fatal termination we frequently see petechiæ, or what is more like ecchymosis or purpura, and this to a large extent on the trunk and extremities. Alvine evacuations; these are fæcal, more or less mixed with detritus of undigested food; semi-liquid; color not peculiar; odor not peculiar, and this is the case through the whole course of the disease. The quantity is considerable, evidently in consequence

of the amount of food taken. This is in striking contrast with the fætid pea-soupy character of the stools of enteric fever, to say nothing of the purulent and briny quality in the ulcerative stage of that disease. The pulse differs in no peculiar respect from that of enteric fever, though I am of the opinion that it is more uniformly soft and somewhat more dull. Latent pneumonia and congestion of the lungs recur probably with nearly the same frequency as in enteric fever. Boils, bed-sores, and cold abscesses also occur. The hair falls out with nearly the same constancy. The termination of this fever in restoration or death depends very much upon the opportunity that may be enjoyed for proper regimen. The febrile type is atonic or typhoid from the beginning, the disease assuming in the advanced stage a very depraved aspect; the patient becoming much emaciated with involuntary evacuations; but although there is a partial stupor, unconsciousness is not complete, the stupidity or inanity resulting not from direct disease or derangement of the nervous centres, but from *lack of animation*.

I am aware that some other febrile disorders occurring in the army are frequently called camp fever. There occurs in the army as much variety of febrile disease as in civil practice, and these occur from the same causes. We meet with every form of inflammatory fever: intermittent, remittent, and bilious fever, also typhoid, and, for aught I know, typhus. I have seen a few cases that resembled typhus more nearly than anything else. They were not enteric, neither did they present the scorbutic character, but were continued fevers of decidedly typhus type. Then we meet with a fever which in the beginning resembles typhoid, except that there is neither tympanitis nor diarrhœa. This fever of continued type will run through a course of two to four weeks without any decided characteristic symptoms, with perhaps an eruption of sudamina, which seem to indicate nothing but abundant warmth and moisture. Similar anomalous fevers are met with in civil practice, and excite no great curiosity.

While among the mountains of Eastern Kentucky, the men were frequently attacked with what we got into the habit of calling mountain ague. It consisted of a seizure, at no very regular intervals, of chills, followed by headache and slight fever without any sweat. Whether this kind of attack was peculiar to that region or whether it is peculiar to an army on a march in a mountainous country, I have not learned. I suppose it was a proper ague. All these fevers are liable to a greater variety of complications than the same diseases met with in

civil practice. There is nothing in these fevers or febrile diseases that stamps them as peculiar to the army or camp,—therefore, they should not be embraced within the name of camp fevers. There is no doubt in my mind that the elements of camp fever may combine with the elements of enteric fever and perhaps with other fevers and other diseases, thus producing an extensive variety of effect. It is not in accordance with the plan of this article to offer speculations upon the varieties, especially as I am not positive of their existence.

It would be too much to claim or expect that I should be correct in all the foregoing statements and suggestions with regard to a subject new to the profession at large, and upon which the most favored have but a poor opportunity to carry out full and complete observations. The most that I expected to accomplish is to set forth distinctly an imperfect model *sui generis*, and hitherto not well distinguished from other continued fevers.

Now, to give in a clear light the diagnostic differences between camp fever and typhoid or enteric fever, I present the following tabular arrangements of those signs and symptoms which are peculiar to each, some of which are available for diagnosis early in the respective diseases.

DIFFERENTIAL SIGNS AND SYMPTOMS.

CAMP FEVER.	ENTERIC OR TYPHOID FEVER.
Abdomen soft, with little or no tenderness.	Abdomen tympanitic, with tenderness more or less intense.
Tongue generally large; frequently flabby and pale.	Tongue generally small, and red where not coated.
Tongue fissured always; fissures peculiar and continued through the entire course of disease; not dependent on dryness.	Tongue cracked when dry, but fissures not persistent; disappearing when the tongue becomes moist.
Appetite generally good, and solid food well borne in considerable quantity, but digestion imperfect.	Appetite slight, and food not borne except in small quantity of liquid form; digestion perfect when too much not taken.
No characteristic eruption during any stage of the disease.	Characteristic rose-colored eruption, usually in second or third week.
Delirium caused apparently by uremic poisoning.	Delirium caused apparently by enteric inflammation and the general action of fever on sensorial system.
Alvine evacuations large and not characteristic.	Evacuations small and characteristic.

Pathology and Cause.—I shall venture nothing positive upon the pathology of camp fever, as I have had almost no opportu-

nity for dissections, for the reasons that there has always been a lack of a proper room at those hospitals where I have had the honor to labor,—these buildings having been constructed in the hurry of military preparation; also there was generally lack of time to make proper investigation; also having regard for the moral effect upon the sick and other soldiers in hospital. These difficulties will be understood by every volunteer army surgeon.

Judging from the appearance of the evacuations, the general absence of tympanitis and tenderness, and the absence of delirium except that obviously caused by uræmic poisoning which sometimes occurs, I am of the opinion that inflammation of the intestinal glands does not belong to this disease. An excited or irritated condition of the mucous membrane of the alimentary canal, caused by the constant passage, in large quantities, of undigested food, and also by the influx of humors and congestion, caused by long continued exposure to cold and damp, is in my opinion the chief pathological condition which, with the scorbutic diathesis, causes this fever. Imperfect digestion and consequent imperfect absorption and assimilation, cause depravity of the fluids and solids of the body. Then, to state the case in brief, the causes of the fever are: Large quantities of azotized food, imperfectly prepared; privation of antiscorbutic food, long continued exposure to low temperature and damp air, the widest possible range of mental and moral excitement and depression. These are the causes which, combined and continued from a few weeks to a few months, produce the peculiar fever. As might be supposed, *a fortiori*, the fever is of vastly more frequent occurrence in new recruits than in old soldiers.

Chemistry does not clearly show us the chemical office of certain kinds of food—the alkalies, the vegetable acids and the acidifying fruits and vegetables; but experience proves their necessity, hence we may call them catalytics. They are necessary to digestion and assimilation, and camp fever arising when these kinds of food are deficient, and never when abundant, hence I conclude that the remote cause of camp fever is lack of catalytic food, with for its development the ordinary causes of diarrhœa superadded. I shall offer no further speculations upon the causes and nature of this disease, but will suggest that, in contradistinction to other fevers which occur in camp, as well as elsewhere, it might with propriety be called *scorbutic fever*.

The camp diarrhœa proceeds, in very many cases, from the same combination of causes,—I mean that diarrhœa which soldiers frequently have without "coming down sick," to use a homely phrase. These cases should be regarded as allied to

camp or scorbutic fever, especially those cases having fissured tongues. Cases not presenting any peculiarity of tongue I do not regard as of the same class, and they are curable by ordinary means. I can not let this opportunity pass without speaking of the peculiarity of the tongue presented by many soldiers who have been for some months in the army and undergone the seasoning. The tongue has a cicatrized or *semi-lobulated* appearance on the dorsum, precisely as if many large wounds or sulci had cicatrized. How long this appearance lasts I do not know, neither do I know whether all these cases have had camp fever partially or fully; but from what I have seen in those cases where I knew they had suffered from that disease more or less, I conclude this appearance results from the fissuring caused by that disease.

Treatment.—Upon this part of the subject I shall be brief, and set up no claim for dictation, but present a summary of what has been my method. Control the diarrhœa from the beginning through the whole course with opiates, of which class the gum, powder and tincture are the best. The pulv. Doveri has not enough of stimulating quality for so atonic a disease. Tannic acid or ferri persulphas, or tinctura ferri chloridi are necessary and excellent remedies, combined with the opiate in cases where the evacuations are very liquid and copious. When the bowels require unloading, as will sometimes be the case, order thus: ℞. Ol. ricini, fℨ., iv. *vel* fℨ. j; tinct. opii, M. xx. *vel.* xxx. Mix. To be taken at once.

This dose will seldom fail to procure free evacuation in a few hours, and no more active purgation will ever be necessary. Let the opium be continued as a stimulant and anodyne means in dose of about gr. ss. every three to four hours, leaving off the astringent when not indicated. The tinct. ferri, however, may be used sometimes to advantage without reference to any astringent effect.

I have sometimes given in the onset of the disease, where there was little or no diarrhœa: ℞. Quina sulph., Pulv. camphor, aa grains iv., and sometimes one-quarter of a grain of sulphate of morphia added to this. This dose has sometimes appeared to have a very happy effect to mitigate the disease. It appears to generalize the circulation and thereby mitigate the fever and diarrhœa; but this dose will produce no marked salutary effect after the disease is established fully.

Spirits mindereri, with the acid in excess in the dose fℨ. ss. to j., taken in conjunction or alternation with the opiate, is a most excellent remedy to promote moisture of the mouth and

skin. It abates the thirst, and in my opinion facilitates the urinary secretion. I suppose almost any physician who had treated typhoid enteric fever would expect in the disease in question to effect moisture of the dry tongue by the exhibition of turpentine emulsion, but in this he would be disappointed. With this medicine the tongue will become more dry and the case will not improve, and this fact seems to mark a diffcrence in the pathology of this from enteric fever. Wood says in his excellent treatise on enteric fever (vide *Wood's Practice of Medicine*, vol. i., p. 357) : "I can not too strongly impress upon the profession my convictions of the importance of this medicine" (turpentine). "It may be employed in all cases in the advanced stages of this disease when the tongue is dry. But there is a particular condition, in which I have very often employed it, and hitherto have seldom known it fail." Then he further goes on in clear and forcible terms to show that this "condition" is that of ulceration. This part of Wood's treatise is all important to those who would successfully treat enteric fever, and my experience has shown to me that it is important to make the distinction in treating camp fever. This fact, in default of other evidence, would seem to indicate that the pathology of the two fevers is different.

The partial suppression of urine, which is perhaps the most fatal incident of this disease, does not seem to me to be an indication for turpentine, even though the mouth is parched at the same time. In this state of the case acetate of potassa is a good remedy, and a very convenient form in the camp is: R. Bicarb. potass., ℥j.; common vinegar, water, aa fl℥ ss. M. Take effervescing. Repeat every three to four hours. Nitrous ether also may be given to advantage. In these cases the patient is delirious, and the prognosis should be unfavorable. In this feature of the disease, as in the disease generally, vegetable acid drinks should be freely given, of which vinegar and water is as good as any, and very grateful to the patient.

Mercury as a remedy in this disease requires no further mention than that of condemnation. It has no place in the treatment.

Epispastics should be used to fulfil indications as in other diseases. In the congestion and inflammation of the lungs, which sometimes complicate this disease, *blistering ought not to be omitted*, and it should be repeated as often as indicated. Blistering for the delirium of uræmic poison is of doubtful efficacy. If applied at all. I think it should be on the lower parts of the trunk or to the thighs, with the view of re-establishing the renal secretion.

I shall add nothing further on the medical treatment of this disease. Its various complications and phases are to be managed on rational principles, keeping the peculiarity of the disease in view. Regimen is everything in this disease; I mean that proper regimen is paramount to everything else. Cleanliness, quiet, and proper warmth, with free ventilation, demand the physician's first care. The food should consist of well prepared common food, with a considerable preponderance of the antiscorbutic vegetables. I have seen patients who were quite low with this disease, eat boiled potatoes and carefully and finely cut cold slaw. They ate such food with a relish and to advantage. Cabbage soup, potatoe soup, boiled turnip with butter, milk sweet or sour, according to taste, etc., etc.; and the patient's appetite, which is generally pretty good, should be indulged to a considerable extent. Acid drinks are important, and ought not to be neglected. Hard cider and native wine properly diluted are perhaps the best, but in field practice these can seldom be had in sufficient quantity; but fortunately the commissariat generally supplies abundance of vinegar, and I am of the opinion, after considerable experience in its use, that it is as good, if not better than any other vegetable acid. Let it be drank freely by all the patients who relish it, and this will be nearly all, diluted with eight to ten parts of water to one of vinegar; and this can be varied by sometimes adding a little sugar, and sometimes to this again a little whiskey. Citric and tartaric acids can also be used for variety, and when these are scarce, cream of tartar can be substituted. The jellies and sour fruits now so much in vogue, and so munificently furnished by the various sanitary societies, are valuable in the nourishing of these patients.

I am very much of the opinion that a regimen similar to the above, diligently and carefully pursued from the onset, would alone be sufficient for the recovery of most cases of scorbutic or camp fever.

If in the foregoing rude attempt to briefly portray camp fever as my experience has impressed it upon my mind, I have shed some light, and will aid thereby in calling out other facts upon the subject, the reader's time will not have been lost nor will my labor have been in vain.—*Lancet and Observer.*

American Medical Monthly.—It is announced in the December number of this journal that its publication will be suspended.—*Medical News and Library.*

CAUSES OF THE DECAY OF THE TEETH.

The frequency with which teeth decay and are lost, and the intimate relation existing between the condition of these organs and the general health, should render a knowledge of the causes of this decay a matter of deep interest to every individual. None are exempt from it, and few indeed seem to escape its ravages.

Many theories were formerly advanced to account for *caries** of the teeth; but only until within the last fifty years have the real causes been understood. To enable the reader better to understand this subject, we will, so far as is necessary for our present purpose, and in as few words as possible, describe the general structure of the teeth, and the agents that operate to produce their decay.

Dentine. The inner portion of the hard structure of a tooth is called dentine,—tooth-bone—a substance containing more lime, and much harder than the other bones of the body. It is composed of about 72 parts mineral matter (69 of which are lime), to 28 parts animal matter. These proportions vary somewhat in different individuals, and like all the other bony structures, grow harder by an increase of mineral, and corresponding decrease of animal matter, as the individual grows older.

Enamel. As a tooth stands in the mouth, the enamel is the only portion of it exposed to view. It serves to cover and protect the *dentine*. It is composed of 99 parts mineral, (94 of which are lime), to 1 part animal matter, and is the hardest of all structures in the animal economy.

With this statement of the composition of the teeth, the reader will more readily appreciate the correctness of the conclusion, when we say that all good dentists, and writers upon this subject, now consider caries of the teeth to be the result of external corrosive agents, acting upon and dissolving, or *eating out*, the earthy portion of their structure.

These agents consist mainly of *acids*, taken into the mouth as medicinal agents, or for pleasure—or originating in a vitiated state of the secretions of the mouth, resulting from an impaired condition of the general health—or from the decomposition of particles of food lodged between and around the teeth.

Such being the cause of decay, the means necessary to be used to prevent it, are apparent. If the *secretions* of the mouth are *vitiated*, this condition should be corrected by proper medical treatment of the general health. The administration of

* Decay.

medicinal agents containing acids, should, if possible, be followed by a cleansing of the teeth, and rinsing of the mouth with a properly prepared alkaline solution. But the great and almost universal cause of the decay of teeth is, *want of cleanliness.* The teeth should be kept clean—*absolutely clean*—as a preventive of their decay and loss, and of large bills with the dentist.

We do not mean to say that attention to these matters will in all cases secure exemption from decay. For, as people must eat and drink, and in seasons of sickness or disability, take substances into their mouths injurious to their teeth, and as some have defective or imperfectly organized teeth, it would be impossible in every case to prevent, entirely, decay at certain vulnerable points. Still, it is true, that a prompt and careful attention to cleansing the teeth after each meal, or as often as anything deleterious is taken into the mouth, would go far, in most cases, to secure freedom from decay, and indemnity against their loss.

We shall endeavor hereafter to point out to our readers the means necessary to be used to keep the teeth clean, and also why it is that some teeth are more liable to decay than others. A. —*People's Dental Journal.*

Book Notices.

Clinical Lectures on Diseases of Women. By J. Y. Simpson, M.D., F.R.S.E., Professor of Midwifery in the University of Edinburgh, etc. Illustrated with 102 Engravings on Wood. Lea & Blanchard. Price $3. For Sale by W. B. Keen, Chicago.

This is a collection of lectures originally published in the *London Medical Times and Gazette*, during the years 1859, 1860, and 1861; and first reprinted by Lea & Blanchard in *The Medical News and Library*, in the same style that they published in the same journal *West's Lectures on Diseases of Females*, *Todd on Acute Diseases*, and other works. This is a fair octvao of 510 pages, very lightly bound in cloth. The wood-cuts are unequal,—some being very good, and some not worthy of the high character of the work. As a contribution to the pages of a monthly journal, or illustrations of a brochure, (which word seems to be accepted in English as meaning a little

more than a "stitched pamphlet,") they were well enough. When transferred to a book of the claims of this one, they might well have been improved; however, in these days of high prices, the book will be acceptable for containing more than the money's worth.

It is needless to say anything to the professional reader of the character of Dr. SIMPSON as an observer in medicine, or as an author. In both respects, he is well known to hold the very front rank in the profession. In this volume, he sustains his former reputation. The style is singularly attractive, while it is wholly devoid of ornament, or anything else than the direct and simple discussion of the topics considered.

It is a singular fact, that in a style of such real excellence and perspicuity too, we should find the term "sedative" used as synonymous with "anodyne."

Professor SIMPSON seems to have felt somewhat forcibly the fact: that many surgeons are disposed to claim that their department of the profession has obtained the highest advancement and perfection, "forgetting that it is the mere handicraft part of it that has been brought to this boasted degree of development." To meet this assumption, he quotes from Dr. GREGORY a rejoinder to that assumption, premising that at the time Dr. GREGORY spoke, there were in Edinburgh two surgeons, rivals, and both authors of large treatises on surgery, named Mr. BENJAMIN BELL and Mr. JOHN BELL:—

"Within my memory, a new mode of cutting off legs was introduced, (or an old one revived,) and strongly recommended by an eminent surgeon, Mr. ALANSON. It was called the flap operation, or cutting with flaps. I remember to have heard some disputes about it; for, as there were flappers, of course there must have been anti-flappers; and as the dispute began little more than twenty years ago, far from being ended as yet, it can scarce be arrived at full maturity and violence. Mr. BENJAMIN BELL must either be a flapper or an anti-flapper; and I humbly conjecture, (for I do not know the fact,) that if he is a flapper, Mr. JOHN BELL will be a determined anti-flapper; but that if BENJAMIN is a anti-flapper, JOHN will be a most

strenuous flapper; but flap or no flap, he certainly may take his choice of several ways of cutting off a leg.

Professor SIMPSON proceeds to remark that the controversy yet goes on now, (some thirty years later;) and the surgeons forget to ask themselves: "why it is that so many of their patients die after every possible form and fashion of dismemberment, and how this mortality may possibly be met and diminished?"

We think that this charge will not lie against American surgeons; but there is a tendency in the war to magnify surgery, somewhat at the expense of the study of the Principles of Medicine, upon which, both departments of our profession depend for their highest success. Whilst the war certainly creates a necessity for a large amount of surgery, the art is far secondary, even in the military service, to practical medicine; and, while it is certainly right, that the opening of this somewhat wider field for surgery, should give a new impulse to the study of surgical anatomy and operative surgery, a still greater attention ought to be given to medical science; and we trust that the practical good sense of our army will secure this result.

THE PRINCIPLES AND PRACTICE OF OBSTETRICS. By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics, &c., University of New York. *Third edition.*

In four months after the first edition of the above book, the author was called upon for the second, and now, thirteen months from the first edition, is issued the third. No more significant expression of approbation from the profession could be desired and, certainly, more reasonably expected than these facts. The author who can issue the third edition in this length of time, as the result of a demand for his book, is fortunate. The cause of this unprecedented sale of Dr. BEDFORD'S obsterics is sufficiently obvious to any person who will examine the work. It is a plain, exact, practical replete system of midwifery, brought up to the present times. While it is full, in extent and practical detail, it is not encumbered with unnecessary disquisitions and verbiage. This makes it a good book for students, an ex-

cellent work for busy practitioners, and a faithful record or mark by which the historian of obstetric medicine may be guided in his estimation of its advance and status at the present day. "Of making books there is no end," is, perhaps, more true now than it ever was before, but the art of book-making is not any better understood than in former times. Men's judgment as to the merits of books, however, is becoming better all the time, hence, the literary and scientific lumber that lies in mouldering heaps in libraries, libraries without blot or soil, while there are so few well-thumbed and use-worn volumes. Among the latter, will stand, for many years, this practical work of Dr. BEDFORD. There is now no book in print on the subject of obstetrics, that we can recommend before BEDFORD'S; and we earnestly hope that the author may long live to keep it posted up to the times, as the science advances.

Editorial.

MEDICAL DEPARTMENT OF LIND UNIVERSITY.

The delay in issuing the *Examiner* enables us to notice, briefly, the closing exercises of the fourth annual course of instruction in this Institution. The public commencement was held on the evening of the first Tuesday in March, 1863, in the hall of the College. The room was well filled. The President of the Faculty, Prof. H. A. JOHNSON, conferred the degree of M.D. upon seventeen members of the class, and gave them a short, but eloquent and impressive charge in relation to their duties and responsibilities. The exercises were closed with an interesting valedictory address, which will be found in the present number of the *Examiner*.

At the close of the public exercises, the graduates, students, and alumni of the College, together with the members of the Chicago Medical Society, repaired to the residence of Prof. N. S. DAVIS, where an elegant social entertainment was enjoyed until a late hour.

The number of matriculants during the past term was 81, and the number of graduates 17.

The next collegiate year commences, with a regular clinical and reading term, on the *first* Monday in April, and continues until the first Monday in August. During this period, the class in attendance will have a regular clinical lecture in the medical wards of the Mercy Hospital every Monday, Tuesday, and Thursday mornings, at 9 o'clock, by Prof. N. S. Davis; a surgical clinic in the surgical wards of the Mercy Hospital every Friday morning, and another at the College Dispensary every Wednesday afternoon, by Prof. E. Andrews; a medical clinic at the College Dispensary every Tuesday afternoon, by Prof. H. Wing; and a clinic on diseases of women and children at the same place every Saturday afternoon, by Prof. W. H. Byford. Besides these ample clinical advantages, the course embraces one examination and familiar explanatory lecture on some one of the branches of medical study every day. This well-arranged clinical and reading term, added to the full annual lecture term of five months, and the systematic arrangement of the field of study into junior and senior branches, makes up a system of collegiate instruction, in all the departments, equal to that of the best schools, either in this country or Europe.

ILLINOIS STATE MEDICAL SOCIETY.

We trust that none of our readers will forget that the regular Annual Meeting of the State Society is to be held in Jacksonville, on the first Tuesday in May. So many of the members are in the Army, that it becomes more necessary for those who remain at home to be punctual in maintaining all our social and professional organizations.

Let none stay away through fear that the meeting will be a failure, for it will certainly be held, and will be attended by a sufficient number of members to render it pleasant and profitable. The opportunity to visit the State Institutions for the Insane, Deaf and Dumb, and Blind, will also add much to the interest of the occasion. We expect to meet a good representation from all parts of the state.

CHICAGO MEDICAL SOCIETY.

At the regular Annual Meeting of the Chicago Medical Society, held April 3d, 1863, the following officers were chosen for the ensuing year:—

For President.—GERHARD PAOLI, M.D.

Vice-President.—M. O. HEYDOCK, M.D.

Secretary and Treasurer.—E. L. HOLMES, M.D.

Delegates to the Illinois State Medical Society.—Drs. E. L. HOLMES, D. D. WAITE, ORREN SMITH, and HIRAM WANZER.

Delegates to the American Medical Association.—Drs. IRA HATCH, A. FISHER, G. PAOLI, and J. M. TUCKER.

Sanitary Committee.—A. FISHER, E. L. HOLMES, and HIRAM WANZER.

During the past year, the Society has maintained an active and prosperous existence,—profitable to its members and honorable to the profession.

AMERICAN MEDICAL ASSOCIATION.—We are happy to assure our readers, that the call for a Meeting of the Association, on the first Tuesday in June, is cordially endorsed by the Medical Journals, and the Profession, in all parts of the country. The letters we receive, and the reports of the appointment of Delegates from various sections, indicate a full and profitable meeting. We hope the Profession in our own State, and throughout the North-West, will take prompt measures to ensure a full representation.

Let the local societies, whether city, county, or district, whose meetings may have been neglected, during the two preceding years of national excitement, be immediately called together, and Delegates appointed who will be sure to attend the Great Annual gathering of our brethren. In counties or districts, in which no social organizations exist, let the practitioner procure a letter of recommendation from some permanent member of the National Association, and present himself at the meeting, and he will be admitted as a member by invitation. Hence there is no excuse for any to remain at home. We would also urge those who are on Committees, either standing or special,

to make ready their reports, and if any have voluntary papers or communications to present, let them place a copy in the hands of the Committee of Arrangements early, that they may be refered to the proper sections in time for fair consideration. Let no one, outside of Chicago, imagine that the course taken by the *Chicago Medical Journal*, and its senior editor, Professor D. Brainard, in opposing the meeting of the Association, indicates any division of sentiment or action in the Profession here, or that it represents the wishes or feelings of any one here but himself. On the contrary, the Profession here are united, and earnestly preparing to give their brethren as cordial and pleasant a reception as they have met with in any other city in our country. Our hotels are of the best character, and amply sufficient to accommodate half a dozen "Canal Conventions" and Medical Associations at the same time. We have full confidence that the coming annual meeting will be well attended; that its members will transact the legitimate business of the Association with dignity, harmony, and profit; that they will revive and extend past associations and friendships, and by their liberality of sentiment, and their strict adherence to the proper objects of the Association, they will set an example worthy of imitation by all other conventional organizations, whether religious, political, or scientific.

The New York Ophthalmic School and Hospital held its Eleventh Anniversary on the 24th inst., in the University Medical College in Fourteenth Street, before a large and highly intelligent audience. The exercises of the evening were introduced with prayer by the Rev. Edward Thomson, M.D., Editor of *The Christian Advocate and Journal.* After some introductory remarks by the President, Solomon Jenner, Esq., the names of the graduating class were read by Dr. Mark Stephenson, lecturer on anatomy, pathology, and treatment of diseases of the eye, who remarked to the President: that thsee young gentlemen were students from the different medical colleges in this city, that they have attended his lectures on ophthalmic surgery, been examined every Saturday by Dr. M.

P. Stephenson, attended the cliniques three days in the week, learned to diagnose diseases of the eye, watched the effect of remedies from day to day, and witnessed the various operations at the hospital, where over 1,000 patients are treated every year; and further said: that he believed they were better qualified to practice this department of their profession than many physicians who have been 20 or 30 years in practice. The diplomas were then presented by Solomon Jenner, President of the Institution, as follows:—A. E. Jenner, M.D., Ohio; J. M. Waddle, Yates County, N. Y.; J. P. Schenck, Junior, Dutchess County, N. Y.; De Witt Webb, Dutchess County, N. Y.; J. H. McCann, M.D., Louisville, Ky.; Robert King, Geneva, N. Y.; H. G. Olmsted, M.D., N. Y. City; James Hutchinson, St. John's, N. B.; Charles P. Sanderson, M.D., Ohio; R. J. Mordon, M.D., Canada West; J. H. Chittenden, Binghamton, N. Y.; Thomas Thompson, Delaware County, N. Y.; G. A. Hayunga, M.D., Canada West; J. H. Hunter, M.D., Concord, N. H.; M. C. Rowland, M.D., Washington County, N. Y.; W. J. Orton, Broome County, N. Y.

The graduates were then addressed in a very forcible and appropriate manner by Dr. Marcus P. Stephenson, one of the attending-surgeons, under whose immediate instruction and examination they had been during the past winter. The Valedictory Address was delivered in a very able and pleasing manner by Alexander E. Jenner, M.D., one of the graduating class; and the exercises of the meeting were closed with an eloquent address by J. P. Garrish, M.D.

College Appointments.—It is known to most of our readers that Dr. M. K. Taylor, who occupied the chair of Pathology and Public Hygiene in the Medical Department of Lind University, has been absent, on duty in the Army during all the past two years, and his place in the college has been temporarily filled by others.

He entered the United States service a surgeon to the 26th Regiment of Illinois Volunteers, subsequently, he was promoted to the rank of brigade or staff-surgeon, and is now in charge of

the military hospitals at Keokuk, Iowa. The continuance of the rebellion, and, consequently, the necessity of still further absence, caused Dr. TAYLOR to resign his position in the college.

Dr. HENRY WING has been appointed to fill the vacancy. Dr. WING filled the chair, temporarily, during the past winter term, and his permanent appointment will be gratifying to all the friends of the institution.

BOOKS AND PAMPHLETS RECEIVED.—We have received a copy of Prof. H. H. Smith's elegant new work on surgery, from the publishers; also, the transactions of the Ohio State Medical Society; transactions of the New York Academy of Medicine; and several reports of asylums and hospitals for the insane, &c., which we have neither time nor space to notice in the present number, but which will be duly attended to in our next issue.

NEW EXCHANGES.—*Canada Lancet:* WILLIAM EDWARD BOWMAN, M.D., Editor, Montreal, Canada; a neatly printed monthly sheet of eight pages.

The People's Dental Journal: edited by W. W. ALLPORT, D.D.S., and S. T. CREIGHTON, No. 32 Washington Street, Chicago. This is a neatly printed journal of twenty-four pages, issued quarterly, and well filled with matter of interest to all classes of people.

We cheerfully place both the above on the exchange list.

ACKNOWLEDGMENT.

MESSRS. EDITORS:—I beg leave, through your pages, to acknowledge my indebtedness to Dr. W. B. WITT, Assistant-Surgeon of the 69th Indiana Infantry, for his invaluable services, in thoroughly preparing for my article on the Surgery of the Battles near Vicksburg, a record of the condition of the patients while on the hospital-boats. Dr. WITT is a gentleman of the best attainments, and is an honor to the service.

E. ANDREWS.

Tribute to Army Surgeons.—It is with pleasure that we copy the following remarks from the *Inquirer*, an able daily newspaper of this City. The tribute is a worthy one, and handsomely bestowed.

Some medical attendants have not been duly qualified, but their number has been greatly exaggerated; and the Surgeons and Assistant-Surgeons of our Army have in their number a body of as devoted men as could be found in the ranks of any service in the world. Testimonies to this effect are multiplied daily in our correspondence. The sufferings of our medical men during the damp, soaking, rainy, season, have been indescribable. Without comfort themselves, in wretched huts in which a farmer could not confine his pigs, lying on the earth or raised from it a few inches by branches of trees, so hard and rough that sleep is almost impossible, the wearied Surgeon may drop off into a slumber; and when the senses are for a few minutes sealed in repose, the exhausted sufferer will often find himself covered with snow, and chilled to the marrow when he awakes to the reality of his situation.

Among his patients, his ingenuity is taxed to the utmost in order to save life, when men are seized with measles and eruptive diseases. Think of thirty or forty men in a regiment, and there are often more, seized with measles, and lying in a damp tent, and rolled up in a soaking blanket, while the dripping clouds keep everything around in utter wretchedness. What can doctors do in such a situation? We have heard of the most amazing displays of self-sacrificing fortitude and devotion to the cause of humanity, by our medical men, in such situations as we have here suggested. And this, too, in the case of men who were reared as tenderly, and nurtured as affectionately as youth could be, in comfortable homes, to which they might still return, but for their devotion to the public service. Sick themselves, and with the prospect of diseased bodies and broken-down constitutions before them, if they should eventually be spared, they hold on their way; and thus they illustrate the extraordinary tendency that exists in the medical mind to deny self for the good of others. Our readers have heard much of the heroism that leads men to the cannon's mouth, but they have heard little of that patient valor, that nobility of intellect, that mastery over the passions, and that self-denial, which our non-combatants are displaying in the steaming atmosphere of the hospital tent, amid the effluvia of typhoid fever, small-pox, measles, and all the diseases that decimate our armies. Treble the amount of salary which the country has awarded to the medical men who

are exposing their lives in the field, would not remunerate them for what they do and bear.—*Medical and Surgical Reporter.*

McLean Co. Medical Society.—The ninth annual meeting of the McLean County Medical Society met in Dr. A. H. Luce's office, on Monday, April 13, at 1 P.M. Meeting called to order by the President, Dr. Worrell.

Members present, Worrell, Luce, S. Noble Dooly, Ballard, Holderness, Parkhurst, and Park.

On motion of Dr. Luce, Dr. Holderness was elected member of the Society.

The election of officers for the ensuing year being next in order, it was moved, by Dr. S. Noble, that the old officers be continued another year. Adopted.

On motion, the following resolution was unanimously adopted.

Resolved, That a committee of three be appointed to wait on Dr. D. L. Crist and inquire into the facts regarding a case of accouchment in which he is reported to have met in consultation with two "Irregular Doctors" of this city, when the grossest ignorance was manifested.

President appointed Drs. H. Noble, C. R. Parke, and A. Elder, the committee to report at next meeting.

Dr. Parke read a paper on the treatment of Hospital Gangrene by Creosote, for which, on motion of Dr. S. Noble, a vote of thanks was tendered, and a copy requested for publication.

On motion, the following gentlemen were selected as delegates to represent the Society in the State Medical Convention at Jacksonville, on the 1st Tuesday in May: Drs. Crothers, Elder, and Ballard.

On motion, Drs. Parke, Fisher, and Worrell, were appointed delegates to the National Medical Convention, which meets in Chicago, on the 1st Tuesday in June, 1863. Alternates, Drs. Parkhurst, Holderness, and Hoover. Essayists, Drs. Cruthers, and Hoover.

On motion, adjourned to meet in Bloomington, on the 2d Monday in July.

Dr. Worrel, *President.*

C. R. Parke, *Sec'y.*

Logwood as a Deodorizing Agent.—The *American Medical Review* testifies to the value of logwood as a deodorizer for medical purposes. In cancerous diseases of the uterus, in the form of an injection, it is said to be employed with complete success.—*London Lancet.*

Galvanism applied, by Aid of the Laryngoscope, to the Vocal Cords.—The electric current has been brought to bear directly on the vocal cords by Dr. Morell Mackenzie, and two cases of functional aphonia have yielded to it immediately. One patient had completely lost her voice for two years, and had been in London Hospital for some months, where every remedy had been used in vain by Dr. Mackenzie. Cauterization of the larynx, blisters, and even the employment of galvanism externally, had all failed, but the application of galvanism directly to the vocal cords succeeded at once, and, after a week, the patient spoke as well as she had two years previously.

In the other case, where the loss of voice was of eighteen months' duration, and where every kind of treatment had been tried unsuccessfully in the London Hospital, the voice was immediately restored by galvanism directly applied to the vocal cords. Dr. Mackenzie has invented an instrument, by which the electric current can be set going, but does not pass beyond a certain distance till the point is introduced into the larynx, when a spring is touched, and the current reaches the vocal cords. Dr. Mackenzie recommends the remedy in the early stages of clergymen's sore-throat, before the perverted state of the nerves has led to follicular deposit.—*Medical Times and Gazette*, Feb. 7, 1863.

Resignation of Professor Samuel Jackson.—We learn that Professor Jackson, who so long and very ably filled the chair of Physiology in the University of Pennsylvania, intends at once to tender his resignation. Dr. J. was an enthusiatic, highly interesting, and brilliant lecturer, and inspired his hearers to a great extent with his own zeal for physiological investigations. We wish him in his retirement the repose he is so well entitled to, with health, long life, and every comfort.—*Medical News and Library.*

Contagion of Secondary Syphilis.—Among the victims of secondary syphilis, writes M. Diday in *Gazette de Lyons*, are the glass-blowers at Giers and Vernasion. The frequency of syphilis among this class of workmen has long been observed, and the fact also that the disease almost always commences in the mouth. Three individuals are obliged to blow forcibly, one immedately after the other, into a hot iron tube, which they are forced to compress strongly with their lips. Hence, therefore, if in one of the three syphilitic discase of the mouth should exist, its propagation is readily effected. At Lyons we con-

tinually meet with cases of syphilis which have been contracted in this way; and occasionally there arise actual epidemics of the disease. M. Diday has presented this state of affairs to the magistrate of the district, and has recommended that a capable physician should be appointed to superintend the *blowers* in these glass establishments, and to prevent any one who has a syphilitic disease of the mouth using the tube alluded to.—*British Medical Journal*, Nov. 29, 1862.

The Marshall Hall Physiological Test for Strychnine.—It is related of Dr. Marshall Hall, in his biography, that at one time the number of criminal poisoning cases, and the conflicting evidence in regard to the employment of strychnine in some of these set him thinking on the subject. His long series of experiments on the nervous system has rendered him well acquainted with the action of strychnine upon the frog, and "it occurred to him that the extreme susceptibility of this animal to the influence of strychnine would constitute it the most delicate test of its presence, thus substituting a physiological for a chemical test. Aided by Mr. Bullock, of Hanover Street, he performed a series of experiments, by which it was at length satisfactorily demonstrated that a young frog might be rendered tetanic by the *five-thousandth part of a grain* of strychnine!" These experiments were communicated by him in detail to *The Lancet* in 1856. This ingenious suggestion of our great English physiologist has recently been acted upon at North Shields, in the *post mortem* examination of Mrs. Gilhespie, an account of which will be found in our pages. It is stated in *The Times* of November 8th, that "a *drop* of an acidulated solution of the residue from the stomach and duodenum brought in contact with the skin of a young frog produced violent convulsions. Three or four additional drops were applied, with intermissions, and it died at the expiration of half an hour."—*London Lancet.*

Personal.—Surgeon Horace Wardner, formerly one of the faculty of the Lind University in this city, who has been in the service since the organization of Col. John McArthur's (12th) Regiment, is spending a ten days' leave of absence with his Chicago friends. The doctor has been, since he left home, in charge of the hospitals at Paducah and Corinth, besides on extended service in the field, and was, until recently, Assistant Medical Director upon Gen. Grant's staff, from which position he has been promoted to Medical Director of the Department of Cairo, with his headquarters at Mound City. He has

achieved a fine reputation in the army as a gentleman and an operator. His health has suffered considerably from the climate into which the discharge of his duties called him, but, with his more northern location, it will, doubtless, be restored to him.

Medical Secrecy.—The Medical Societies of Paris are at present exercised in regard to the question, whether a physician when consulted with regard to the health of a patient in reference to marriage, should refuse to give any information? The societies of the viii and ix arrondissements have decided as to the obligation of secrecy; while the society of the vii arrondissement have declared that while in general, the above rule is correct, there are also circumstances in which the dictates of conscience are the above law [a higher law]. This last seems to us to be a dangerous decision, and one which might lead to great abuses.

Knowledge gained by a physician in his professional capacity should be deemed sacred, and not to be divulged under any circumstances. It is very questionable whether it be safe to make any exceptions to this rule, and if any be made, they must be extremely rare.—*Medical News and Library.*

Curara in Hydrophobia.—The Commission appointed at the Milan Hospital, for the purpose of testing the value of curara as a remedy for hydrophobia, have reported that it has failed to establish its claim as a remedy.—*London Lancet.*

Remarkable Instance of the Glancing of a Minie Ball.—Sir: The accompanying case appears to me to be one of unusual interest. If it deserves your attention, you are at liberty to publish it.

Geo. Fowler, Co. F. 50th N. Y., was admitted into hospital, December 19th, with a gun-shot wound received at Fredericksburg, December 13th, the ball entering just behind the left great trochanter, but not emerging. A probe following the track of the ball made an *obtuse* angle of about 115° with the shaft of the femur. A small fragment of bone was found splintered from the great trochanter and extracted.

Jan. 3d.—I discovered tenderness and a point of hardness at upper border of left nates, which was suspected to be the ball, but from its great depth under the muscles, it was impossible to determine. I conferred with two surgeons, who dissented, on the ground that the ball, if there, *must have glanced at an acute angle.* Still, not being able to account for the tender and in-

durated spot, and the operation unattended with danger, I cut down two inches through the muscles, and came upon the ball, the *curvature* of which corroborated the supposition as to its direction. Yours, etc.,

GEO. F. FRENCH, M.D., A.A. Surg., U.S.A.

American Medical Times.

STATISTICS OF THE GLOBE.—The following curious facts are stated by the *Abeille Médicale*:—The earth is inhabited by about 1,288,000,000 of inhabitants, viz.: 369,000,000 of the Caucasian race, 552,000,000 of the Mongolian race, 196,000,000 of the Ethiopian, 1,000,000 of the American Indian, and 200,000,000 of the Malay races. All these respectively speak 3064 languages, and profess 1000 different religions. The amount of deaths per annum is 333,333,333, or 91,954 per day, 3730 per hour, 60 per minute, or 1 per second; so that at every pulsation of our hearts, a human being dies. This loss is compensated by an equal number of births. The average duration of life throughout the globe is 33 years. One-fourth of its population dies before the seventh year, and one-half before the seventeenth. Out of 10,000 persons, only one reaches his hundredth year, only one in 500 his eighteenth, and only one in 100 his sixty-fifth. Married people live longer than unmarried ones, and a tall man is likely to live longer than a short one. Until the fiftieth year, women have a better chance of life than men, but beyond that period the chances are equal. Sixty-five persons out of one thousand marry. The months of June and December are those in which marriages are most frequent. Childern born in spring are generally stronger than those born in other seasons. Births and deaths chiefly occur at night. The number of men able to bear arms is but an eighth of the population. The nature of the profession exercises a great influence on longevity: thus out of 100 of each of the following professions the number of those who attain their seventieth year is—among clergymen, 42; agriculturists, 40; trades and manufacturers, 33; soldiers, 32; clerks, 32; lawyers, 29; artists, 28; professors, 27; and physicians, 24; so that those who study the art of prolonging the lives of others are most liable to die early, probably on account of the effluvia to which they are constantly exposed. There are in the world 335,000,000 of Christians, 5,000,000 of Jews, 600,000,000 professing some of the Asiatic religions, 160,000,000 of Mahometans, and 200,000,000 of Pagans. Of the Christians, 170,000,000 profess the Roman Catholic, 76,000,000 the Greek and 80,000,000 the Protestant creeds.—*Boston Med. and Surg. Journal.*

ELIXIR CALISAYÆ FERRATUM.

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ARTICLE VIII.

A CASE OF AMPUTATION OF THE FEMUR FOR MORTIFICATION OF THE LEG, WITH TWO CASES CATALYTIC DISEASE, TREATED WITH THE SULPHITES OF SODA AND LIME.

By A. FISHER, M.D., of Chicago.

Read before the Chicago Medical Society, March 27, 1863.

Mrs. McIntosh, a native of Netherlands, aged 33, of a sanguine and nervous temperament, strong and robust constitution, says: that she has always enjoyed good health until last January, when she had scarlet fever, and before fully recovering from it, she began to have severe pain in the left limb with a high fever, which continued to grow worse until the limb was mortified.

I first saw her Saturday, January 31st. I found the left limb destroyed by sphacelus to within about four inches of the knee-joint, with a well-marked line separating the dead portion from the living. The thigh was much enlarged and tender along the track of the femoral vessels; tongue red, smooth, and dry; pulse 120 and weak; bowels loose; no appetite, and takes very little nourishment. She says that no physician has seen her for the past six days, and that during that time she took

no medicine, although a woman had been applying plasters to the limb, without any benefit.

Being unable to obtain sufficient information to give the previous symptoms and treatment of the case in detail, I shall say nothing about it, for fear that I might state it incorrectly. She says, however, that mustard was at first applied to the limb, then tinc. of iodine, and, afterwards, a poultice made of yeast and shorts. Prescribed quinine and camphor aa grs. jj. with opium gr. a-quarter every four hours; promised to amputate the limb on Monday, if she was in a proper condition.

Monday, February 2d.—Found her about the same. The wound smells very bad; says that she wants the limb amputated. About 11 o'clock, A.M., Dr. WICKERSHAM administered chloroform to the patient, before removing her from the bed. We then placed her upon the table and applied a tourniquet. The artery, as it passes under Poupart's ligament on the effected side, could with difficulty be felt, whilst it was quite strong on the other side. The limb was severed by the flap-operation, above and as near the knee as possible, and have integuments enough to form a flap; in presence of Drs. MARGUERAT, HEYDOCK, and SMITH, who assisted me. Dr. WICKERSHAM attending the patient, keeping her in a proper condition. There was very little hemorrhage, three or four small arteries only were taken up and tied; not a drop of blood was found in the femoral artery, and it was so contracted and filled with pus that we did not ligate it. The femoral vein had the appearance of being injected with red wax. The flaps were then brought together and confined with sutures; adhesive-plasters and the usual dressings were then applied, and the patient returned to her bed without being conscious of the operation. Half gr. morphia was given in some brandy as soon as she aroused sufficiently to take it. 9, P.M.—Pulse 110, full and strong; complains of some pain in the stump; ℞. morphia gr. ¼, every four or six hours, if necessary, to allay pain.

3d.—Pulse 120, strong and hard; tongue dry, smooth, and red; stump badly swollen, measures twenty-three inches in circumference, and tender over the vessels; temperature normal;

takes very little nourishment. ℞. chlorate potass gr. x. in solution every six hours, morphia gr. ¼ every six hours.

4th.—Pulse 118, rather hard and thready; tongue still dry, red, and smooth; stump rather more swollen and tender; inclined to be stupid; bowels moved two or three times. ℞. sulphite soda in solution ʒj. every six hours, turpentine emulsion with tinc. opii. every six hours.

5th.—Pulse 116, softer and fuller; feels and look more cheerful; tongue about the same; stump not quite as hard; bowels moved three times. Diet.—Milk and beef-tea, and crust water for drinks. Continue same medicines.

6th.—About the same in all respects; dressed the stump, it looks well and begins to suppurate, it is not quite as hard or as much swollen. Continue same medicines, with wine if she wants it.

7th.—Rather more comfortable; continue same course.

9th.—Pulse 100, full and regular; tongue more moist, and not as red; bowels rather loose; dressed the stump, it suppurates profusely; pus rather thin, but color good; edges of the wound look healthy and begin to unite; swelling of the stump subsiding. Continue the sulphite soda and emulsion, with Maderia wine.

12th.—Is improving gradually; pulse 96, full and soft; tongue moist and clean; stump looks well and is healing by granulation, suppurates profusely; pus laudable; has some appetite, takes oysters and more nourishment. Continue sulphite soda, and give tinc. muriate of iron and strychnine, instead of the turpentine emulsion.

14th.—Has fever nights; pulse 100; tongue not quite as moist, otherwise, about the same. Continue the tinc. muriate of iron and sulphate quinine gr. iiij. every six hours, and omit the sulphite soda.

17th.—Fever at nights has subsided; pulse 96; tongue rather dry, complains of thirst; has not much relish for food. ℞. sulphite soda ʒj. every six hours, omit the quinine and continue tinc. muriate of iron.

19th.—Pulse 94, soft, full, and regular; thirst abated,—

tongue not as dry; wound secretes laudable pus and looks well, —it is now more than half united, ligatures have all been removed; she takes broth and beef-steak with a relish; bowels quite loose, though the discharges are consistent. Continue same treatment.

22d.—Pulse 85; tongue moist and clean; the wound healing by granulation, and looks healthy. Continue same medicines.

March 1st.—Feels well; pulse 85; appetite good; bowels regular; wound nearly healed; some induration in the traek of the large vessels, though not tender on pressure. Follow same course.

7th.—Pulse 80; tongue clean; appetite good; bowels move once daily; swelling of the stump subsiding,—wound nearly healed; and she is gaining strength rapidly. ℞. no medicine.

14th.—Has been improving steadily; appetite good; wound nearly healed. Gave no medicine.

24th.—Found her sitting up in bed quite well, though weak; wound entirely healed, with as good a stump for an artificial limb as I ever saw.

I will defer making any comments on the case until I have given the notes of two other cases, which, I believe originated from the one just related, as they are man and wife, and were both sick at the same time. I will merely copy my notes as taken at the time of my visits.

I was called, Feb. 26th, to see Mr. Rademaker, a healthy robust man, about 40 years old, who had received an injury of the ankle and a slight cut on the patella. I advised cloths wet in a solution of salt and vinegar to be applied to the ankle, and drew a strip of adhesive-plaster over the wound, with cloths wet in cold water over the knee.

Mrs. R., his wife, (a relative of Mrs. McIntosh, who had been nursing and taking care of her for three weeks, or more, after the amputation,) complained of pains in the joints, loss of appetite, &c., but did not wish me to prescribe for her.

March 1st.—Saw them again: Mr. R. complained of soreness about the wound on the patella; it looked red, and was quite tender for two or three inches around the wound. ℞. cranberry

poultice over the inflamed part. Mrs. R. was no better. Her bowels being constipated, I prescribed a mild cathartic.

4th.—Mr. R. has erysipelatous inflammation on the external and anterior portion of the limb, extending from the knee nearly to the hip, which is very painful and tender on pressure. Continue same poultice. Mrs. R. not as well, complains of pain in all the joints, has fever and chills, no appetite, pulse 110, tongue coated, bowels loose. ℞. tincture of cimicifuga, ℥ss. every four hours, with morphia gr. ¼, every four or six hours if she has severe pain.

7th.—Mr. R. complains of severe pain of the limb above the knee, which is much swollen, and tender on pressure, with evident signs of suppuration. Ordered slippery elm poultice. Mrs. R. is very much worse, her countenance is sunken, and she looks cadaverous; pulse 120, small and quick; tongue dry and coated; severe pain in all the joints; and she is unable to move even the fingers; with a blush of red spots over the joints of the fingers, toes, ankles, and other parts of the body; bowels loose, moving twelve or fifteen times in the twenty-four hours; has no appetite and takes no nourishment. Ordered sulphite of lime, ℥j. every four hours, with a pill of plumbi acetas gr. ij. and opii. pulv. gr. ss. as often as necessary to control the bowels.

March 8th.—Mr. R.'s limb is very much swollen, with evident fluctuation; made an opening in the popliteal region, and let out, at least, a pint of pus, which relieved him very much. He never had any severe constitutional symptoms more than would be expected from the local disease, therefore, I gave him no medicine. Mrs. R. appears rather better; pulse 110; not quite as much pain; bowels move six or eight times in the twenty-four hours. Continue same course.

9th.—Mr. R. is very much better,—has no pain: swelling nearly gone, though the redness on the surface continues on the upper part of the thigh. Mrs. R. is improving; pulse 100, more soft and full; tongue not as dry; bowels moved three or four times daily; pain less severe; can move the fingers better; takes some nourishment for the first time for several days. Continue the sulphite lime, and pills if necessary.

12th.—Mr. R. is gaining fast,—sits up and eats as usual, though the abscess discharges slightly. Mrs. R. is improving rapidly also: pulse 85, soft and full; tongue looks better; pain and redness of the joints subsiding. Continue the sulphite lime and omit the pill.

16th.—Mr. R. not as well; pulse 100, small and quick; tongue coated; inflammation and swelling about the hip, which is quite tender on pressure, with signs of suppuration. R.—sulphite lime, 5j. every four hours, and apply slippery elm poultice. Mrs. R. still improving; pulse 75; tongue moist and cleaning; appetite better; pain and stiffness in the joints relieved, with the exception of the left wrist; bowels regular, without any opiate. Continue sulphite lime the same.

18th.—Mr. R. is much better; pulse 90, and more full; tongue more moist; swelling and redness about the hip less. He says: that he began to improve in less than twenty-four hours after taking the sulphite of lime. Mrs. R. is still doing well, though she has some pain in the left wrist. Continue the sulphite of lime.

21st.—Mr. R. continues to improve; pulse 80; tongue moist; appetite returned: very little redness or swelling of the hip. Continue the same. Mrs. R. is very much better; pulse 65, full and soft: tongue not much coated and moist; some appetite. Continue sulphite lime every six hours, instead of every four hours, and give tinc. muriate of iron every six hours.

24th.—Found them both sitting up, and so well that I discontinued my visits; but advised them to continue taking the medicines a few days longer.

Remarks.—The sulphites of lime and soda having never been used internally as remedial agents to any extent, and in catalytic diseases never before to my knowledge, I deem it prudent to state how I came to prescribe them:—My attention was directed to their use in these cases by reading the review of an article on "Diseases depending upon morbific fermentation and their treatment." by Dr. G. Polli, of Milan; published in part 46 of *Braithwait's Retrospect*, and taken from the *Dublin Quarterly Journal*, May, 1862, page 367.

From the well-known power of sulphurous acid in preventing fermentation and decomposition of organic substances, Dr. POLLI made numerous experiments on living dogs, with a view of ascertaining whether the sulphurous acid in combination with the alkalies or alkaline earths, might not be introduced into the system of the living animal, without being changed into sulphuric acid or the sulphates, and if so, whether they would not act beneficially in preventing or curing catalytic diseases, or those diseases supposed to be caused by morbific ferments or blood-poisoning. His experiments were numerous,—sixty-eight in number,—carefully conducted, and appear to me to be conclusive in establishing the following results:—

With a view of determining the quantity of the sulphites of soda, potassa, magnesia, or lime that could be safely administered to a dog, he gave to one, weighing eight kilogrammes, ten grammes of these salts daily for fifteen successive days, and, afterwards, gave to a dog of about the same weight fifteen grammes at a dose. During the experiment, he killed several of these dogs, and, upon examination, found the stomach and intestines in a perfectly normal condition. Having proved that the sulphites could be given in large quantities with impunity, he then experiments to ascertain whether they were conveyed through the system in the form of sulphites, or whether they become oxydized and formed sulphates. He gave the sulphite of soda to one dog, the sulphite of magnesia to another, and to the third he gave the same food but no sulphites. The dogs were put to death at the same time. In the first two, the sulphites were detected in the urine, blood, and every part of the system; in the third, no traces of sulphurous acid could be found, showing that large quantities of the sulphites can be administered without producing any deleterious effects, and that they remain in the system for some time without being changed to sulphates.

After injecting pus and putrid substances into the femoral veins of dogs, he says:—Experiments carefully practiced on animals have given the following results:—

1st. "That the injection of a certain quantity of pus into

the circulation, produces pyema, and such diseases as are characterized by multiple abscesses.

2nd. "That the injection of putrid matter produces septicemia, or those diseases recognized by the name of putrid, infectious, and which are characterized by typhoid gastro-enterites.

3rd. "That the injection of matter obtained from contagious diseases, glanders, for instance, will re-produce the same affections."

After relating numerous experiments of injecting pus and putrid substances into the veins of dogs, and giving them the sulphites of soda, lime, etc., as antidotes, the Reviewer says: "Several dogs were prepared with different quantities of sulphites, for several days previous to being injected with putrid pus; the result was, that those which had received the smaller doses of sulphites died, while those which had been liberally supplied with them recovered, and the rule seemed to be pretty constant, that the more pus was injected, the greater quantity of sulphites was required to antagonise it. Several dogs were injected with putrid blood; they all, with one exception, died. Other dogs, prepared with the sulphites and then injected with the same blood, all recovered, as well as some dogs who were injected with putrid blood, diluted with twice its bulk of solution of bi-sulphite of soda. A number of dogs were similarly treated with the discharge collected from a glandered horse, and the result was the same."

The *Reviewer* further says: "In conclusion we would say, that if the author has not deceived himself in his experiments, nor overrated the value of these substances, but has really discovered in the sulphites a remedy for catalytic diseases, and a prophylactic against them, he has conferred a boon as great, or perhaps even greater, than did JENNER, by his great discovery of vaccination."

After carefully reading the article above alluded to, I concluded that if Dr. POLLI (known to be a scientific physician,) was not mistaken in his conclusions, from his experiments, the sulphites might be given, without any risk of doing harm, with the

well grounded hope that they would be invaluable, in the large class of diseases called catalytic; if they operated the same on the human system as on the dogs upon which he experimented.

That the cases which I have just related belong to the class of diseases which Dr. POLLI calls catalytic, there can be no doubt. In fact, the morbid specimen of a portion of the popliteal artery and vein, which I here exhibit, shows, that there must have been inflammation of both of those vessels. For the artery is contracted, filled with pus and shreds of fibrine, adherent to its internal coat, which is uneven and rough. The vein, as you will see, is completely filled with a hard, redish substance, the product of inflammation of that vessel.

Arterites is a rare disease, and when complicated with phlebitis, must be rare indeed. The inflammation of the blood-vessels, in the case of Mrs. M., was undoubtedly the sequelæ of blood-poison of scarlet fever. I have long been of the opinion that phlebitis occurs as a sequence of that disease, more frequently than is generally supposed. In fact, we know, that ulcerations and abscesses, with a low grade of fever, which are kin to phlebitis, often follow scarlatina, and are caused by the same morbific blood-poison that generates phlebitis, consequently we may expect it to occur, in cases where the poison is sufficiently concentrated.

I am generally far from being the first to prescribe new remedies, having so frequently seen them overrated at first, I usually defer prescribing them until they have been fairly tested by those who can experiment on a large scale, and ascertain their true value; but soon after the amputation, Dr. BARTLET showed me the review of the article by Dr. POLLI, and after perusing it with great care, I thought, in the case of Mrs. McIntosh, we had one in point, and having but little confidence in the usual remedies in her case, I concluded to try the sulphite of soda, and carefully watch its effect. Though in her forlorn condition, I did not deem it prudent to trust to it alone, and as other remedies were given at the same time, we cannot say, with certainty, that the sulphite of soda was of any special benefit. One thing, however, is certain, that she improved

while taking it, and grew worse when it was omitted, as you will see by the symptoms and treatment, which were recorded with great care at every visit.

The case of Mrs. Rademan, I at first diagnosed rheumatism, or a disease of that character, and prescribed accordingly, but in a day or two, as the disease became more fully developed, I became satisfied that it was of the catalytic order of diseases, and that it was propagated from Mrs. McIntosh, when Mrs. R. was nursing her. If you recollect, Mrs. R. grew worse fast, while taking the tincture of cimicifuga, and I considered her in a very dangerous condition when we commenced with the sulphite of lime, March the 7th. From that time we continued the sulphite of lime, in drachm doses every four hours, until the 21st, when she became convalescent. Between the 7th and 21st of March she took 10½ ounces of it, and nothing else in the form of medicines, with the exception of the pill of sugar of lead and opii. to restrain the discharges from the bowels. Now in this case we know, that if Mrs. R. was cured by any medicine, it must have been the sulphite of lime, for she took no other medicine, with the exception of the plumbi acetas and opii. pill, and that was discontinued when the diarrhœa was controlled, and she continued to improve the same, or even more rapidly, after the pill was omitted; to be sure, after the 21st, she took, with the sulphite lime, tinc. ferri. murias and strychnine, each every six hours as a tonic; but if you remember, she was entirely relieved before taking the iron and strychnine,—nothing but debility remaining.

In regard to the case of Mr. Rademan, I feel confident that his wound was innoculated in some way from his wife, Mrs. R., perhaps, before I saw him. At first, it was a local phlegmonous erysipelas, and after the abscess was opened he appeared well, and I prescribed no remedies. But in a few days the parts about the hip became inflamed, and a new abscess appeared to be forming, with severe constitutional symptoms. I then gave him sulphite of lime in drachm doses every four hours, with no other medicine; and in less than forty-eight hours he was much better, the local inflammation disappearing, as well

as the fever and constitutional symptoms. He felt assured that the sulphite of lime was what relieved him.

Since the above article was written, I have prescribed the sulphites of soda and lime in four or five well-marked cases of catalytic or blood-poison diseases, with the happiest effect. In every instance there has been a marked improvement in less than forty-eight hours after commencing its use, and in no case has it been detrimental, to my knowledge. I have notes of the cases, and will at some future time report them.

With regard to the dose of the sulphites of soda and lime, I can only say, that I commenced with ʒj. every four or six hours; calculating from the quantity which Dr. POLLI gave the dogs, that it would be a medium or rather a small dose for an adult, and the effect was so good that I did not think best to increase or diminish it; however, in very bad cases, I think an ounce or more in the twenty-four hours might be given to advantage. I would further say, that the sulphites of soda and lime, which I have prescribed, were pure, prepared by Dr. SQUIBBS for internal use, and not the common article kept by druggists for artists, &c.

ARTICLE IX.

THE SELECTION OF REMEDIES, AND THE ART OF PRESCRIBING THEM.

By SWAYNE WICKERSHAM, M.D., Chicago, Ill.

Read to the Chicago Medical Society.

I have selected this subject for my paper, in preference to any other of the multiplicity at my command, because, I know not how else I can occupy the little time that is allotted to me for preparation to such an advantage to the members of the Medical Society, as by the submission of my views regarding the improved methods for the administration of medicines, and the incalculable benefit that is to accrue to scientific medicine in consequence thereof.

It is not so much my desire to direct your attention to the selection of remedies therapeutically, as it is with a view to the eligibility of administration. Not but what the first consideration should take precedence of the second, but that the second claims equal thought and attention, in order to derive the greatest therapeutical benefit from any given medicament.

This is the age of progress: The coach and four is supplanted by the rail-car and steamboat, the news-boy by the telegraph, and the wooden ship by the iron-clad. The science of medicine is not at a standstill, but moves rapidly forward. It not only keeps pace with the collateral sciences, but takes the inside track, and goes on from time to time with accelerated speed. The public may doubt it, but no physician does, when he reflects upon the additional means at his command for diagnosing disease, and the corresponding simplicity and rationality of our therapeutics. Who among us but admits the inestimable value of auscultation and percussion; of the chemistry of the secretions and excretions; of the more nearly perfected symptomatology of morbid action; of the discovery of anesthetics; of the introduction of numerous medicines that are so much more certain in their curative influence, than those in use in former ages; of the methodical arrangement and treatment of diseases; and of the universal recognition of the *vis medicatrix naturæ?*

All these, by the best educated members of our profession, are recognized and acknowledged evidences of our advance. But what does the public say? They may tacitly admit the above, but will reproach us by the truthful assertion: that our remedies are equally uninviting, in fact, as repulsive, offensive, and unpalatable as those in use by the profession at a much earlier period. It is true we no longer prescribe distilled vipers, scorpions, frogs, lizards, worms, little dogs, mice and their teeth; tongues, livers, skulls, tails, claws, feathers, and brains of birds; shaving of men's skulls, after being put to violent death. But, do we prescribe remedies in a form any more pleasing to the vision, acceptable to the palate, and grateful to the stomach, than was done one hundred years ago? I think the interrogation will be answered in the negative, especially,

when we call to our remembrance our copaiba and turpentine emulsions, our quinine, Dover, and alœtic powders, our dark hued and unsightly pills, our nauseous mixtures, and our bitter tinctures. We have gone higher and higher in all else appertaining to our avocation; but where is our improvement in this department? and echo answers, where? Notwithstanding, the general prevalence of an apathetic feeling among us, a few members of the profession have done much to cancel the defects, to bridge the chasm, to respond to the demand of the public, to win back the confidence of the people, to popularize legitimate medicine, and through this medium to assassinate the great popular quackery of the day,—homœopathy. I must say, though entertaining much respect for the profession, that the great body of medical men are, in this regard, dumb. They prescribe as if they were totally ignorant of the eligible pharmaceutical forms in which the medicine they prescribe can be and should be administered. The medical profession is one great family, and should be one great brotherhood; but, notwithstanding, the occasional absence of fraternal regard, we are so intimately associated, that we are, to an extent, common sufferers in the mishaps of each other,—what affects the interests of one is reflected, in a degree, upon the others. That which popularizes an individual as a physician, popularizes, to an extent, the great body, and *vice versa*. Hence, in the adoption of the improvements by each and all, we have a common interest. I cannot urge too strongly upon your attention, the demand of the public,—that we abandon our nauseous and offensive forms of administration, and give them the preparations of equal therapeutical value, in a form which is odorless, pleasant to the taste, and agreeable to the stomach.

Pharmaceutical eligibility is almost as essential in our prescriptions as it is to properly proportion the dose to correspond with the age, sex, temperament, and idiosyncrasies. I now proceed to bring to your attention some individual medicines in the pharmaceutical form, most desirable for administration, and will compare them with the form in which they are ordinarily ordered. I will commence with quinia sulphas. This is a

medicine, I think I may say, in universal use among educated physicians. We cannot, at the present stage of medical science, abandon its use, and do justice to our patients. As an antiperiodic in our autumnal fevers, as a neutralizing agent in the malarial cachexias, as a sustaining medicine in typhoidal affections, we have not its equal, yet, how bitter to the taste. In solution, its extreme bitterness cannot be obviated. We direct a patient to take it and not to grumble. In powder, it cannot be incorporated with any vehicle that will conceal its objectionable feature. In pillular form, as made by the most accomplished members of the pharmaceutical profession of this city, it is disagreeable to many, refused by some, and unadapted to young children; and, yet I appeal to you if it is not the practice of ninety per cent of the physicians of this city to prescribe it as above-mentioned. For myself, I can say that I have almost abandoned the above forms, as prepared by our city pharmaceutists for the administration of this favorite medicine. I now almost universally direct it in the pillular form, as prepared by TILDEN & Co., New York. Their pills or granules are snowy-white, highly polished, small in size, and I firmly believe contain what they are represented to.

We cannot obtain a pill, manufactured in this city, that equals them. Our apothecaries are equally intelligent and accomplished as those of other cities, but they are destitute of the requisite machinery for their manufacture. I would draw no invidious comparison between the preparation described and the French one, which is similar to TILDEN'S, and is an elegant preparation. In this form, I have not the slightest trouble in getting patients to obey my instructions, when I desire to administer to them this medicine. It possesses all the elements to commend it to the eye, to the palate, and to the stomach. It is adapted, in the grain pill, to the infant, to the child, and to the adult. I now and then meet with a case where they tell me they cannot swallow a pill, I deny it, and tell them they can. I direct the medicine as stated, they take them and are pleased, and positively happy that they have but an odorless and tasteless medicine to swallow. Their acquired repugnance to unsightly pills

yields to these. I have known children to desire the dose repeated, and to swallow them with avidity.

When I used the medicine as ordinarily ordered, I was much perplexed and annoyed by patients violating instructions and uttering manifold complaints, because the medicine was intensely bitter. A very desirable form, when given in powder as well as other unpalatable medicines, is to protect the taste by enclosing the substance in a wafer, but this method is not of general adaptation.

Allow me now to proceed to opium and its preparations. What I have said about the general use of quina sulphas, applies to this substance. We cannot do without it. Pain must be assuaged, inflammation cured, and sleep promoted; and you will search in vain for its equal to meet these indications. Now, will you continue to administer it in the powder, in the solution, in the pill, as prepared in our stores, or will you adopt the eligible form, the snowy-white and polished pill and granule of TILDEN & Co., or some other manufacturer who presents the same in the same form? Will you continue to disgust your patient with the medicine, and offend his stomach? He may thank you for relief, but he dislikes your medicine, and would not take it for the pleasurable sensation it gives him. Would it not be preferable, when we must give this medicine, to administer it in these little odorless and tasteless pills and granules, which are so acceptable to the sick, and to which objection will seldom be made. A few years' experience teaches me to speak with emphasis in the affirmative. The same eligible pharmaceutical form I adopt for the administration of all the more prominent medicines in use by us. A vast variety of these preparations are manufactured by TILDEN & Co., and are for sale at some of the stores of this city. I would mention the ferruginous preparations.—The plumbi acetas and opium, ipecac and opium, of each one grain, making a two-grain pill; the comp. cathar. pill of the U. S. Phar.; and, in fact, the medicine alone and in combination in the doses most in use among physicians; and by ordering a certain size, the dose can, in almost all instances, accommodate itself to the views of the practitioner.

These medicines are brought to this city in small bottles, containing one and five hundred pills or granules, and are dispensed as directed by physicians. I do not understand why physicians do not more frequently direct these medicines in the forms to which I have alluded.

The desirability must be admitted by all. To illustrate how seldom they are ordered, I would state that at an apothecary store in the south division of this city there were received 340 prescriptions in the month of September, 1862, not one of which called for these forms of medicine. A store in the west division, that does a large prescription business, at which I made inquiry has had the same result. The proprietor of a leading store in the south division informs me that there are but two of us who prescribe them from him.

I desire, finally, to consider the oleum terebinthinæ. This medicine is often prescribed, and, ordinarily, in emulsion. As an anthelmintic, as an important aid in certain stages of enteric fever, and as a medicine in some cases of sub-acute and chronic dysentery, it is invaluable. There are but few preparations that are so extremely nauseous to the majority of people; they, in most instances, take it, because we order it, and it does them good. They all complain, and some refuse to take it, and many cannot, in consequence of its producing emesis. The emulsive form, where it is possible, should be abandoned, and substituted by the pearls, containing about five drops, and weighing about three grains. These are tasteless, odorless, easily swallowed, and acceptable to the gastric organ. The emulsion is a favorite prescription of our much esteemed friend Prof. DAVIS, in connection with the tinc. of opium. I have used it, as advised by him, in numerous cases with the most happy effect. But why not gratify our patients by substituting one of the pearls and one of TILDEN'S granules, of one-eighth, one-sixteenth, or one-thirty-second of a grain of morphia sulphas, for the ordinary adult dose of the emulsion? I am certain, if either of us lay upon a sick-bed, which pharmaceutical forms of these medicines we would have given to us. If we did but give due attention to these things, the moral effect would be invaluable to the interests

of legitimate medicine. I need not multiply. The illustrations that I have given are sufficient to prove that we are too careless and indifferent in the selection of our remedial agents, with regard to their pleasantness.

This is the age of quackery. I doubt not there are more people in America, especially in this latitude, who employ empiries, than at any former period. Lamentable as it is, yet I firmly believe that the confidence of the people is not in the regular profession, but in quackery. The history of medicine furnishes us with the evidence, that irregular practitioners have had an existence in all ages of our art, but it gives us no instance where the ordeal was so severe as that through which the profession is now passing. What has given the confidence of so many credulous people to that popular and formidable system of quackery that now obstructs the great medical highway? Upon what basis does it rest? Scientifically, it is foundationless, and has the least merit of any system that has ever been promulgated. The opinion of every observing and reflecting medical mind is, that it has but one merit, and that is the freedom from repulsiveness of their so-called remedies. I believe that it is almost useless to talk to the people upon subjects appertaining to our profession. We cannot convince them that a quack is a quack; that there cannot be but one true system of medicine; that there cannot be two sciences of the same thing. So long as these people have stomachs, my belief is, that the most potent weapon is the one that will reach the stomach. That is the spot where quackery must meet its foe. My arguments shall be used hereafter, so as to produce their effect in that locality. Prof. WOOD of Philadelphia says: "that the physician should be acquainted not only with the properties of medicines, and the diseases to which they are respectively applicable, but also with the art of prescribing them, so that they may be adapted to the peculiarities of individual patients; and by the mode in which they are administered, may produce the greatest curative effect with the least possible inconvenience."

It is from the neglect of the last clause of the quotation, that we are daily driving from us some one of our patrons, that he

may associate with, and become a missionary to that objectionable system, that is gall and wormwood to all honest and learned physicians. Ask any one who employs homœopathists, what induced him to employ them; he will respond thus: in order to obviate the necessity of taking your disagreeable medicines. If the forms that I have mentioned be adopted by the profession, this reproach will no longer apply to us. We *can* give, in almost all instances, our medicine in a form that will be welcomed by our patients, and deprive them of the reason they assign for abandoning us. With these pharmaceutical forms at our command, no physician protects the interests of the profession, as he should, by permitting his patients to leave him in consequence of unpalatability of his remedies.

Let us select remedies that can be administered in small though efficient doses, and conceal the odor and taste by the improved means at our disposal. So far as the active principles of medicines have been discovered, we should give preference to them. Organic chemistry is very progressive, and is continually developing to us, upon what the medicinal virtue of our vegetable remedies depend. It behooves us, in whose hands legitimate medicine is to-day trusted, to lay aside the crude and the rough, and, where it is possible, to direct the essence, the active principles, which were not isolated and individualized, and, therefore, not at the command of our medical ancestors.

It is time that our decoctions and infusions were considered obsolete. It is time that our ordinary tinctures should be replaced by the concentrated ones. It is time that the disagreeable powder should be canopied by the wafer, or other means adapted to conceal its taste. It is time that a sick man should be treated by us as a sick man; we must cease to administer to his disgust. The sick child should no longer associate with the memory of the doctors' nauseous and repulsive medicines. When we have applied the principle of agreeable exhibition of medicine, which is the only life-spark of homœopathy, it will die a natural death, and have no resurrection.

Similia similibus curanthur and its infinitesimalism has been exploded. No scientific, no honest medical man gives credence

to the utterances of its enunciators. Russia, after about forty years' experience with it, and granting it many hospital favors, has prevailed upon the Emperor to issue a decree forbidding a homœopathist to practice in his dominions. The hospital at Leipsic, in which this system was founded, died with SAMMY HAHNEMAN. The last one at London, also the last at Vienna, have ceased to have an existence. There no longer remain but three or four hospitals under their control upon the entire continent of Europe, and these have but a feeble and sickly existence. Denmark no longer has but three practitioners of that faith. Although several of the European governments have acted with their accustomed liberality to develop scientific truths, by granting the disciples of that faith an opportunity to prove their pretensions, by admitting them into the military hospitals; there is not a single instance on record where they did not signally fail. Such is homœopathy in Europe, after reaching about its fiftieth year of age. How is it in America? Honor to the United States Government for protecting the regular profession, by refusing the admission of the disciples of that false system into the army and navy, notwithstanding, Massachusetts sent her petitions, numerously signed, urging their official recognition; and Senator GRIMES of Iowa, was there to prostitute his intellect and insult the educated profession, by strongly urging the Government to grant their demands. Dr. PETERS of New York City, and editor of the late *North American Journal of Homœopathy*, who has written several works on homœopathic practice, and the recognized leader of them in the United States, and who has done more to popularize this system in America than any one hundred of his brethern, after becoming affluent, renounces this system, and deals fatal blows at this flimsy species of charlatanry. I will insert a few paragraphs, as found in his letter of renunciation, addressed to the editor of the *American Medical Times*, in 1861:—

"As far as lay in my power, I have not been unmindful for a day, from the commencement of my career as a medical student and practitioner, of the numerous brilliant advances in regular medicine, which have been constantly progressing both

in this country and abroad. Infinitesimal doses are so repugnant to every fraction of common sense that I possess, that I have always felt absolutely degraded when making what I conceived to be necessary trials with them. I have always felt that I was doing something foolish or wrong when giving them, that I was dealing with quantities so minute and so powerless that it would be trifling with the lives of my patients to depend upon them in serious cases, and with their time and comfort in milder attacks. I have known many extraordinary instances of recovery from diseases and sickness in which no medicine had been given; and numerous consultations to which I was called by homœopathic physicians, in which severe disease had gone on unchecked by these powerless agents, more and more convinced me that they were irrational and unsafe." Thus wrote the only scholar they have had in the United States!

Soon after the publication of Dr. PETER'S article, Drs. FOWLER, BROWNE, and MCDONALD, well-known homœopathic physicians in New York City and Brooklyn, published their renunciation in similar terms.

I have thus shown that this false system is on the shady side of life. They no longer have faith in their infinitesimalism. They to-day give more medicine in any given number of cases than we do. They select the identical pharmaceutical forms to which I have adverted in this paper. They call it homœopathy, and the people know no better. The part of a hypocrite is easily played with these medicines: and they will continue to flourish with them in private practice, until their use becomes general with us. It is astonishing to what an extent the public think that the homœopathists are the progressives. The people know not how free we are from routine-practice. They are ignorant of the wide eclecticism that governs us. They little think that each physician exercises, to an unlimited extent, his free agency, that we are no sectarians, no bigots; but that each physician is free to exercise his own intellect as to the kingdom of nature from which he shall call his remedial agents. That he gives or withholds medicines, directs in a small or large dose, as best accords with his judgment. I hold the homœo-

pathists directly responsible for thus poisoning the public mind.

My own deep conviction is, that the only effectual way of annihilating these deep dyed scoundrels in our "day and generation," who, skunk-like, are too fetid to touch, but who poison the medical atmosphere by their odoriferous exhalations, is, for the regular profession in all cases where it is possible, to direct, administer medicine in the forms suggested in this paper.

ARTICLE X.

CREOSOTE IN HOSPITAL GANGRENE.

By C. R. PARKE, M.D., Bloomington, Ill.

TO THE McLEAN COUNTY MEDICAL SOCIETY:

MR. PRESIDENT:—I desire to lay before this Society a brief synopsis of my experience in hospital gangrene, which, I think, may be of service to many of my suffering countrymen now in the different hospitals of the land.

In the best regulated hospital buildings, erected with an eye particularly to ventilation and all that tends to the genial health of its inmates, hospital gangrene will frequently rage with unbridled fatality. During my services in the Crimean War, I had ample opportunity of testing the various modes of treating this troublesome and, too often, fatal disease. As every surgeon is aware of the symptoms characteristic of this disease, I shall not call your attention to them particularly, but to the principle point of interest,—the treatment.

During the late Crimean War, hospital gangrene and typhus fever were the principle diseases of the campaign. Many, in fact, most of the buildings used for hospital purposes during a military campaign are ill-adapted to such use, being incapable of thorough ventilation, and, of course, so much against the just merits of any treatment. Again, the Russian and German doctors, in the Russian service, were, for some reason or other, opposed to thorough ventilation, at least, when we (I mean the

American surgeons,) would return to the hospitals, we would invariably find the building closed securely at every point against the external atmosphere, with the exception of a small opening at the top of a few of the windows, about five inches in diameter, in which was placed a piece of tin freely perforated with holes. This was a very serious blunder, for which no surgeon could be excused, and one that contended vigorously against the success of any treatment.

During the winter and spring months particularly (1855–56), the weather was very unpropitious, being wet, damp, and foggy most of the time, with a profusion of mud in the streets. Of course, such a state of the atmosphere had a very depressing effect on the vital forces, and assisted greatly, in common with the vitiated atmosphere of an ill-ventilated hospital, in bringing about that peculiar state of the system favoring hospital gangrene. In the treatment of this disease, what seems to be called for? *First*, a pure atmosphere; *Second*, a disinfectant; *Third*, tonics and stimulants; and *Fourth*, *an external stimulating antiseptic.*

Of the first, it is necessary to say but little. As perfect a system of ventilation as is possible is imperiously demanded. Under the second head, we would say, a due regard to cleanliness is entirely necessary; at the same time, let the bed-posts be wet frequently, and the floor sprinkled with a solution of chlo. lime. In the third place, use tonics and stimulants, wine, eggs, and soups, or stronger stimulants internally, if thought called for,—brandy, &c., &c. To fill the fourth indication, we have creosote, which acts, in most instances, like a charm. I apply it to the gangrene, stump, or wound directly, by means of a schwab, made by tying a small piece of sponge on the end of a stick. The application is severe, but not more so than the nitric acid, I doubt it being as severe. After being thoroughly rubbed over with the creosote, as above-described, I dress the parts with an ointment made of

℞. Creosote,.....5i.
Oleum Olive,.....Oj. M.

until the entire slough drops off, and the healthly red granula-

tions are seen underneath. This will frequently take place in twenty-four hours after the first application. After this, it is only necessary to dress with some slightly stimulating ointment or wash. I have tried this treatment so thoroughly, MR. PRESIDENT, as not to leave the least possible doubt on my mind of its superiority over all other varieties of treatment in this disease.

ARTICLE XI.

DEAF MUTE RESTORED TO HEARING BY AN ATTACK OF VARIOLA.

MARION, ILL., *April 16th*, 1863.

PROF. N. S. DAVIS,

DEAR SIR:—The following case of variola, which occurred recently in my practice, has connected with it a circumstance which may be of some interest to the profession, although, the course and termination of the disease itself presents nothing unusual:—

George H. Dickinson, a deaf mute, aged 45 years, was seized with the usual symptoms of an attack of small-pox, 14th March last. There was nothing remarkable either in the eruptive fever, the appearance of the eruption, (which was confluent,) the maturation of the pustules or secondary fever. The patient passed on to convalescence, and is now completely recovered. But, what is rather strange, the patient, during his illness, became able to hear with the left ear, the other remaining closed, and could talk almost immediately after he could hear. While visiting him on the evening of the 21st, (which was the fourth day of the eruption,) he wrote upon his slate these words: "I heard to-day for about twenty minutes as plainly as you ever did, how do you account for it, doctor?" I paid but little attention to this, and hastily replied, that I supposed the inflammation in the throat had affected the ear through the eustachian tube.

On the evening of the 22d, he complained of pain in the left

ear; and, on examination, I discovered a slight discharge of muco-purulent matter from the external meatus. One of the attendants informed me that the patient heard the noise made by the lowing of a cow near his room, and had also heard thunder in a storm-cloud that passed over.

On the morning of the 23d, while at his bedside, I observed his attention was attracted by the singing of birds near his room. I told him that it was the birds singing, and asked him what kind of music they made. In reply, he whistled in imitation of them. This was the first satisfactory evidence I had had that he really could hear. He still complained of pain in his left ear. Being called to the country, I did not see him on the 24th, he being visited by my preceptor and partner, Dr. A. N. LODGE. On entering the door of his room on the morning of the 25th, I bowed and inquired how he got along, to which he replied "bully;" and it took him but a few minutes to tell me the following, which I had already learned from Dr. LODGE:—"When he awoke on the morning of the 24th, his head was filled with very loud and confused sounds. The confusion and astonishment, for the moment, produced a distraction of the mind. On regaining himself, he wished some explanation of the phenomena, he called out distinctly 'where is doc.' He also discovered that he could hear his attendants talk, and could repeat the words after them." It took him but a few hours to learn a sufficient number of words to converse on ordinary subjects: indeed, it appears to me that he could speak words that he never heard spoken. He now hears and speaks with as little difficulty as any one.

The following questions have occurred to me concerning the case:—1st. Did he never hear before? 2d. What influence had the disease on the organs of hearing? 3d. How could he so readily speak after he could hear? As regards the first question. I found the evidence that he had not heard or spoken for 25 years, conclusive. Many of our best citizens have know him for that period without a suspicion ever arising in their minds that he could hear or speak. Further back than that, we have only his evidence, which, in his own language is: "So

far as my recollection of myself reaches back, I never did hear; and, to the best of my knowledge, my parents taught me that I never could hear." So we are left to suppose either that he could hear in infancy, but that by disease it was destroyed while very young, or that he never could hear. I leave each one to their own supposition as to what influence the disease exerted on the function of hearing. I could not now, and, perhaps, never, give a better answer than I gave to the patient, when he requested an explanation.

I hope men more competent than myself will endeavor to explain this matter, in regard to the third question,—"how could he so readily speak after he could hear." I might state that Dickinson has a fine education, and completely mastered, among other things, that most difficult science, labiaology, which was taught him by the late Dr. J. K. MITCHELL, of Philadelphia, under whose instructions he was for four years. A brother and a sister of Dickinson's were also deaf mutes; his parents were cousins. He has been married once, his wife was a deaf mute also. He has two living children, a son and a daughter, the former aged five and the latter four years, and both are blessed with perfect hearing and speech.

J. J. SAMUELS.

ARTICLE XII.

A DEATH FROM CHLOROFORM.

Reported by E. ANDREWS, M.D., Professor of Surgery in Chicago Medical College.

Deaths from the administration of Chloroform are so seldom fully reported, that every effort needs to be made to fully elucidate the phenomena and rationale of the accident, in order that the obscurity which still shrouds the subject may be dissipated as soon as possible.

In the following case, although I did not witness the death, I was personally acquainted with the attendants, whom I care-

fully questioned respecting circumstances, and I had the pleasure of making the *post mortem* examination with my own hand.

Mr. D—— was about sixty years of age, and of intemperate habits, but not known to be otherwise diseased. After an unusually prolonged debauch he applied to a physician to shield him from the impending horrors of *delirium tremens*. He was found to be rational, with no delusions of the senses, but with a feeble and frequent pulse, and a well-marked trembling of the muscles of voluntary motion.

The physician prescribed a mixture of tinct. cinchona, laudanum, and alcohol, to be frequently repeated in small doses.

He continued two days, under this treatment, with no material change, but on the third day he became wild with the usual form of *mania a potu*, and refused, absolutely and determinately, all medication. Some fourteen hours or more were wasted in this manner, during which he took neither medicine nor food. At this juncture, my advice was sought, and I endeavored to induce the patient to yield to strong persuasion. Failing entirely in this, I advised that he should be placed under the influence of chloroform, sufficiently to overcome his obstinacy, and that then suitable tonics, together with a powerful opiate, should be administered. I judged that unless his excitement should be subdued speedily, there was no hope of any recovery, as he had already almost exhausted his vital energies; and it seemed to me that the tranquilizing effect of anæsthesia might serve to give time for a strong anodyne to commence its influence.

I then left, and in accordance with my advice the anæsthesia was attempted by the physician and attendants. The administration was begun cautiously, admitting an abundance of air with the vapor, but the patient made such a violent and continued resistence that it was found almost impossible to continue it. After much difficulty, however, he was partially secured, and the chloroform was given very rapidly and copiously, in order to subdue his resistence. In a short time he became quiet, when the medicine was placed in his mouth. This re-arroused his consciousness, and he spit it violently out, and re-commenced

his struggles. The chloroform was then copiously re-applied until he became quiet. At this juncture the medicine was given and swallowed in an easy and natural manner, and the patient lay upon the bed respiring quietly and freely. In about three minutes he was noticed to be pale and ghastly in the countenance, but still respiring. The paleness momentarily increased, and in five minutes more both respiration and the pulse ceased, and the beating of the heart could not be felt in the chest. There was no evidence of asphyxia, but the physician in attendance thought it his duty to make use of artificial respiration until all hope of resuscitation had departed. His efforts, however, were unavailing, as not the slightest sign of returning vitality presented itself.

The chloroform, in this case, was from a good article, which had been given, without evil effects, to several other patients. It was administered upon a cloth folded into a cup-form, and held over the face. The administration, owing to the difficulty of restraining the patient, was pretty freely pressed.

The *post mortem* examination revealed no physical signs to account for the accident. The heart was found nearly empty in all its cavities. Long white clots were, however, attached to its valves in an unusual manner, and may, possibly, have interfered with their action. On the right side, the clot had its thickest part in the auricle, and its attachment to the *chordæ tendinæ* of the tricusped valves beneath. Instead, however, of streaming off like a banner in the normal direction of the blood-current, *i. e.*, through the pulmonary artery, it presented two trains, one of which extended through the auricle and thence down into the ascending vena cava; and the other took the usual course up the pulmonary artery. As these banner-like white clots cannot extend themselves in a direction contrary to the current of the blood, I can only account for their double direction by supposing, that the formation of the first portions entangled and tied open the tricuspid valves, so that the blood was no longer regularly pumped through, but simply churned in and out of the ventricle, most of it returning at each contraction to the cava, and only a little passing up the pulmonary

artery. The fact that the train of the clot which extended towards the vena cava was the largest of the two, gives countenance to this supposition. This also would account for the fact, that the lungs and the left side of the heart were found almost empty of blood. There was a small white clot found attached to the mitral valves, and streaming up into the aorta in the usual manner.

The lungs were dark with the carbonaceous stains of old age, and presented evidences of old pleuritis, but were nearly destitute of blood, and healthy in their structure. Owing to the objections of friends, the brain could not be examined. The liver and other abdominal viscera presented no unusual appearances.

It is obvious, both from the symptoms before death, and from the phenomena presented at the autopsy, that the death, in this case, took place by syncope, and not by asphyxia, as is usually supposed to be the mode of fatal chloroformization. If the formation of the clot which enlarged the valves of the right ventricle was commenced before the patient was in *articulo mortis*, it would account for the failure of the heart to propel the blood and for the consequent syncope, of which, the patient died. If, however, as many suppose, these white clots only form in the presence of immediate death which is impending from other causes, then, the explanation is as obscure as ever. I have observed that chloroformized animals sometimes die of syncope in a similar manner, but I did not observe in them any peculiar clots.

It is a settled fact, that chloroform is a more dangerous agent of anesthesia than sulphuric ether, but yet the danger is not great. About a thousand cases of its administration fell under my notice while I was in the Army, no one of which resulted fatally. I have been able to hear of only one fatal case in the Western Armies since the war commenced. On the whole, although the exigencies of the battle field will always necessitate the use of pure chloroform in the surgery of war, I advise great caution in its use in civil practice. Probably, the best method of anesthesia is to have present both ether and chloro-

form. Let the administration be commenced either with ether alone, or with ether mixed with one-fourth part of chloroform. If the patient proves too insusceptible to this agent, and cannot be reduced to anesthesia by it alone, more chloroform can then be added, or even the pure chloroform be administered until the desired effect is obtained.

The Clinique.

SURGICAL CLINIC ON INJURIES OF THE ELBOW-JOINT.

By Professor E. ANDREWS.

GENTLEMEN:—I present before you this morning two severe cases of compound and comminuted fracture and one case of simple fracture of the bones constituting the elbow-joint.

We will take the simple fracture first, as being the easiest understood, and then continue our investigations upon the severer injuries:—

You perceive that this little girl has some injury to the arm, whose nature is not obvious at first glance. She fell to-day upon her right elbow, which is now somewhat swollen and tender, yet there is no very obvious deformity on inspection, and the pain is not severe; but as diagnosis of injuries of the elbow are of great importance and sometimes rather difficult, I have placed her under the influence of ether to enable me, without pain, to make a thorough examination. Gentlemen, if in examining injuries of the elbow you fix your attention upon four anatomical landmarks, you will be guided by them to sure and infallible conclusions, and this complex subject will become to your mind simple, easy, and beautiful; but if you disregard them, and fumble indefinitely around the swollen member, trying to judge by its general form and position, you will always be in doubt and never can be sure of a good diagnosis.

The four landmarks of the elbow-joint are

1st. The olecranon process,
2d. The internal condyle,
3d. The external condyle,
4th. The button-head of the radius.

These points can always be distinguished, even in swollen limbs, except the head of the radius, and that, if it cannot be discovered, is proved to be in its own proper place, the only spot about the elbow where so large an object as the button-head can lie hid. The principle which will guide your judgment in the use of these landmarks may be clearly stated in two sentences By comparing these four bony points in the injured and in the sound limb you will ascertain

1st. If they have all the correct relative distances and directions from each other; then, there is no dislocation.

2d. If each one is firmly attached to the shaft of its own bone; then, there is no fracture.

If, on the contrary, the relative positions are altered or the landmarks move on their shafts, there is a dislocation or fracture, or both. By considering the subject in this simple and clear manner, your diagnosis will be stamped with certainty, and all other symptoms be fully accounted for.

In the present instance, I perceive that the olecranon process is somewhat drawn upward and separated by a gap from the ulna, proving a fracture. The other parts of the joint are all in normal relative position. For treatment in this case, I recommend a straight anterior splint to keep the forearm extended, so as to bring up the ulna against the fragment of the olecranon, and a figure-of-eight bandage to gently draw the process downward against the ulna.

The other two cases before us are more serious in their character, and endanger the lives of the patients. Observe now, the two crushed elbows: the flesh is ragged and torn, the bones are comminuted, and the fragments protruding through the wounds. These illustrate the class of injuries produced by railroad accidents. The patients are somewhat cold with the nervous shock, and show strong marks of suffering on their countenances, and the pulse is rather small and feeble. The

injuries, therefore, take serious hold on the powers of life. At the same time, you observe they are both muscular and vigorous looking men. There is no mark of intemperance in the countenance, and the complexion is clear, strong, and healthy, showing a firm, vigorous nutrition of the skin. All these things lead us to hope that the patients have a good plastic diathesis, and will bear up well against the coming effects of their injuries. If, on the contrary, we found the skin unusually thin and delicate, or puffy and bloated with intemperance, or dotted with weak aplastic-looking festers, it would show an aplastic diathesis, and give reasons to fear that the patients would succumb too readily to their injuries. All these minor points you will observe in your patients at first inspection, in order to estimate their probable resistence to death. The next question is: can the limbs be saved? Here, you are not to judge by the amount of superficial laceration, nor yet by the complications of the fracture, but by observing whether the vital functions of the limb are still carried on.

In these cases I observe that both patients preserve a good pulse at the wrist, and, to some extent, the sensitiveness of the fingers. One of them has lost the feeling in the little finger and adjoining side of the ring finger, indicating the destruction of the ulnar nerve. The rule adopted by all sound surgeons in this accident, is to preserve the limb, if there is circulation of the blood sufficient within it to give a tolerable hope of avoiding gangrene. It is not considered justifiable to amputate for a crushed elbow, while there is a pulse at the wrist, or any other clear signs of continued circulation in the hand, for the following reasons:—

1st. The elbow-joint is not so large that a suppurative inflammation of its surfaces will very greatly endanger life. The effects will, it is true, be severe, but they are not generally fatal, as they are in a crushed knee, and the risk, therefore, may rationally be encountered.

2d. Even if mortification should occur, it does not, generally, terminate in death, as it does in the inferior extremity, and secondary operations upon the arm, although not as successful as primary, are still very well borne.

3d. The value of an arm is much greater than that of a leg. Artificial limbs serve a very good purpose for walking, but for loss of an arm no efficient mechanical substitute can be offered. It is the duty and the right, therefore, of a patient to run some risk of his life for the sake of a member which carries within itself so much of his personal usefulness and comfort. I decide, therefore, against any primary amputation.

I shall now give an anesthetic, and proceed to remove carefully all loose fragments of bone which appear to have lost their vascular connections, and shall then place the limbs upon angular splints. By to-morrow, the shock of the nervous system will have passed away, and the reaction, which precedes inflammation, will have fully set in. I shall then use cold water dressings, graduating the amount of cold according to the severity of the vascular action. The joints, in these cases, always inflame severely, and a great amount of swelling usually occurs. Following this, we shall have copious suppuration, with gangrene of such portions of flesh as are much crushed, and, probably, necrosis of some points and pieces of bone, all of which complications must be treated on the usual principles, as they arise.

Ultimately, the position of the forearm will become an important point of consideration. The joint, in such cases, must be considered, generally, destined to anchylosis, and, therefore, the member must be placed in such a degree of flexion as will render the loss of motion least injurious. This position is found, by experience, to be the one-half way between complete extension and a right angled flexion. I shall, therefore, set the splint to an angle of 135 degrees. I said, that the limb must be looked upon as *probably*, but not certainly, destined to anchylosis. Such is the truth in the case. It is my duty, therefore, on the one hand, to give the splint such an angle as to render the limb as useful as possible after the stiffening; but, on the other hand, every effort must be put forth to prevent a complete loss of mobility. With this view, I shall commence, as soon as the danger of gangrene is past, to make daily motions with the limb, so as to elongate and loosen the

new-formed bands of plastic lymph, which will connect the articular surfaces. In this way, we may be able to preserve a portion of the motions of the joint, and very much increase the usefulness of the hand and forearm.

MEDICAL WARDS OF THE MERCY HOSPITAL.

ERYSIPELAS,—SULPHITE OF LIME, &c.

By N. S. DAVIS, M.D., Professor of Practical and Clinical Medicine, &c.

During the last half of March and the first part of April, 1863, erysipelas was more prevalent in this city than usual; and, as a consequence, several very severe cases, occurring among the poorer classes, were received into the Mercy Hospital. They constituted the subject of several clinical lectures to the class attending the summer course of instruction in the Chicago Medical College, (Medical Department of Lind University,) thereby enabling the students to study the disease practically in all its stages. One item in the treatment of some of these cases, has induced us to report them somewhat in detail:—

CASE I.—Mr. M., was admitted into the medical ward of the Mercy Hospital, April 2d. He had been sick five or six days previously. At the time of admission a well-marked erysipelatous inflammation occupied the whole face, (except the chin,) the ears, the mastoid spaces, and part of the scalp. The tumefaction was so great as to completely close the eyelids and obliterate the ordinary expression of the features. The inflamed surface was dark or purplish red, and both cheeks and eyelids were covered with a close aggregation of vessicles filled with a dark brown fluid. The extremities were cool; pulse small, weak, and 120 per minute; tongue partially covered with a reddish brown fur; lips dry; abdomen moderately tympanitic, and bowels loose. The patient was very restless, and complained of great exhaustion. He was directed to take tinct. ferri. murias. 20 gtts., every three hours, and a powder containing

pulv. opii., 1½ grs., and sulph. quinine, 2 grs., between; also as much beef-tea and sweet-milk as his stomach would bear.

After pursuing this treatment thirty-six hours, there was no improvement in any of his symptoms. Dark brown liquid evacuations from the bowels continued to occur every three or four hours; the mind was somewhat wandering; the local erysipelatous inflammation remained stationary in its boundaries, but the vesicles had dried into *black* scabs, with evident ulcerations beneath them; while on the lower part of the right side of the face and the whole temporal and masseter region of the left, the skin had assumed that dark brown color, plainly threatening gangrene.

Regarding the case as one of great malignancy, from actual poisoning or degeneration of the blood, it was determined to try the effects of the *sulphites*. Accordingly the tincture of iron and quinine were both omitted, and one drachm of the *sulphite* of lime directed to be given every two hours.

To restrain the typhoid looseness of the bowels, a teaspoonful of the following emulsion was given between the doses of the sulphite of lime, viz.:—

℞. Ol. terebinth, ...ʒii.
Tinct. opii.,.....ʒii.
Pulv. g. Arabic,.....ʒiii.
Sachar. alba.....ʒiii.
Rub together thoroughly and add
Aqua mentha.....ʒii. Mix.

Beef-tea and milk-porridge were continued for nourishment. At the end of twenty-four hours, after commencing this treatment, the only change observable in the patient was, a slower pulse, less mental wandering, and less frequent passages from the bowels. The same treatment was continued.

At the end of the second day, the pulse was 100 per minute, soft; skin generally cool; the bowels quiet; and the tumefaction of the face diminished. As the scabs began to separate from the cheeks, cicatrization was complete; but the skin and cellular tissue of the eyelids was extensively destroyed, leaving the left eye almost dissected from the socket. Over the places,

on each side of the face, where gangrene was threatened, the skin had retained its vitality, but the cellular tissue beneath was evidently suppurating. The sulphite of lime was still continued every three hours, but the emulsion of turpentine and and tinct. opii. was continued only three times a day; same nourishment as before. The open ulcers around the eyes were washed with a weak solution of chloride of zinc, once a day. In two days more, making four days after the sulphite of lime was commenced, all the unfavorable constitutional symptoms had disappeared; but extensive abscesses had formed over the right side of the lower jaw and over the left temporal and masseter regions. These were freely opened, and the sulphite of lime continued in doses of one drachm four times a day. But as the diarrhœa had entirely ceased, the emulsion was discontinued; same nourishment continued. The patient continued steadily to improve for three days longer. The ulcers around the eyes were granulating healthily, and the abscesses on the face had nearly ceased to discharge, when another large abscess was found to exist under the scalp, directly on the vertex of the head. This was opened by a free incision, and a large amount of thin pus escaped, with some tough shreds of cellular tissue.

The patient was now attacked with catarrhal symptoms and pretty severe bronchial cough, for which, the following anodyne expectorant was administered, viz.:—

℞. Comp. honey of squills, &c., ...ʒj.
Tinct. bloodroot, ...ʒss.
Camph. tinct. opii.,.....ʒjss.

mix, and give a teaspoonful every four hours; and continue one drachm of sulphite of lime morning and evening. In a few days the catharrhal symptoms subsided, and the patient passed on to complete recovery. But the contraction of the cicatrix in the left lower eyelid was sufficient to cause a moderate eversion, and make it difficult for the patient to close the eyelids fully.

CASE II.—Mrs. H., a native of Ireland, aged about 35 years, was admitted into the female ward of the Mercy Hospital, April

6th, 1863. She had been sick four or five days, and had taken some cathartic medicine.

At the time of her admission, her face, forehead, ears, and mastoid spaces were uniformly swollen of a dark purplish red color, on which were several vessications filled with dark serum. The surface of the face and trunk was hot and dry, but the extremities were cool. The mouth and tongue were dry; the pulse 118 per minute, soft and weak; bowels quiet for the last twenty-four hours; urine high-colored and scanty; slight subsultus, and mental faculties dull.

The treatment directed for this case was, one drachm of the *sulphite of lime* every three hours, and twenty drops of the tinct. ferri. murias, between, and the same nourishment as in the preceeding case. A manifest improvement had taken place in the general condition of the patient at the end of the first twenty-four hours,—the pulse was reduced to 110 per minute; the temperature of the extremities improved; and the mental faculties more active; although the erysipelatous inflammation had extended its boundaries over a greater portion of the scalp. The same treatment, medical and hygienic, was continued. At the end of the third day, the inflammation had entirely ceased to extend over more surface, with some abatement of the swelling in the face, and a still further improvement of the general symptoms. The same treatment was continued, except that the interval between the doses of medicine was lengthened, first to four, and, subsequently, to six hours. In one week, from the time of admission to the hospital, convalescence was fully established; and without either ulceration in the skin or suppuration in the sub-cutaneous cellular tissue.

Case III.—Mrs. C., a native of Ireland, aged about 38 years, was admitted into the same ward as the second case, April 10th, 1863. Five days previously she had had a miscarriage at the fourth month of pregnancy, which, so far as we could learn, had been attended by no unusual circumstances. On the third day after the miscarriage she was seized with a chill, pain in the back and hypogastric region, and fever. During the succeeding two or three days, we have no detailed account of her

symptoms. But at the time of her admission into the hospital, her pulse was 130 per minute, very small and weak; her extremities cool; skin, generally, leaden color; countenance dull and relaxed; mind dull and sometimes wandering; abdomen distended, tympanitic, with acute tenderness over the whole lower half, and constant pain both in the lower part of the abdomen and in the lumbar and sacral regions. The evacuations from the bowels were frequent, dark brown, and thin. She was restless, and complained of inability to sleep.

From the small and frequent pulse, general prostration, and local pain and tenderness, it was evident that severe uterine phlebitis existed, with great danger of a fatal depression of the vital properties and degeneration of the blood. Hence, we directed the patient to take one drachm of the *sulphite* of lime every three hours, alternated with a powder containing pulv. opii., 1½ grs., sulph. quinine, 2 grs., and pulv. g. camphor, 3 grs., with milk-porridge for nourishment.

At the end of the first twenty-four hours the only changes observable in the condition of the patient were, less restlessness, pulse 120 per minute, less pain and tenderness in the lower part of the abdomen, and less frequent intestinal discharges.

The same treatment was continued. At the end of the second day the pulse was 112 per minute, but still, small, and weak; expression of countenance better; abdomen less tympanitic, and tender; and the bowels quiet. There was also a slight lochial discharge which had been previously suppressed. The *sulphite* of lime was continued as before, but the powders of opium, quinine, and camphor were given only three times a day. For nourishment, milk, milk-porridge, and animal broth.

At the end of the third day all symptoms of active uterine or phlebitic inflammation had disappeared, the diarrhœa had entirely ceased; and the patient expressed herself as, feeling almost well, except a sensation of nausea and occasional efforts to vomit, apparently, from the secondary effects of opium. The *sulphite* of lime was now continued only three times a day, and the powders of opium, &c., entirely omitted. To allay the irritability of the stomach, and exert a moderately tonic in-

fluence, the following mixture was directed, in doses of a teaspoonful every four hours, viz.:—

℞. Aromat. sulph. acid,.....ʒiss.
Sulph. magnesia,.....ʒii.
Tinct. opii.,.....ʒii.
Aqua,..... .....ʒii. Mix.

From this time the patient continued steadily to improve; and in two weeks, from the time of her admission, she was able to leave her bed. In commenting on these cases from time to time, to the class of students in attendance at the hospital, it was not claimed that they were sufficient to establish the efficacy of the *sulphite* of lime in the treatment of diseases dependent on blood-poisoning and degeneration. But they do show that the remedy may be given in large doses with perfect safety; and, taken in connection with the cases related by Dr. FISHER, in another part of this Journal, it is rendered highly probable that the *sulphites* will be found exceedingly valuable in the treatment of a whole class of severe and often fatal diseases.

Proceedings of Societies.

ARMY MEDICAL SOCIETY, AT JACKSON, TENN.

JACKSON, TENN., *April* 27, 1863.

EDITOR EXAMINER:—Preliminary to the organization of a Medical Society here, on the evening of April 2d a number of medical officers convened at the office of the General Hospital.

On motion of Dr. H. W. DAVIS, Dr. S. YORK was elected Temporary-President, and Dr. J. R. PEARCE, Secretary.

The president, on taking the chair, stated more fully the object of the meeting,—to be the formation of a Medical Society to consist of the medical officers of the 16th Army Corps. That it is true of medicine as anything else; that in union there is strength; and that no physician is worthy of his noble pro-

fession, who is not ever ready to do all in his power to elevate it to greater and still greater usefulness; that the surgeons in and near Jackson may spend an evening or two of each week in medical association, not only with profit and pleasure to themselves, but with great advantage to the sick and afflicted soldiers, whose sufferings they are so often called to alleviate, &c.

Drs. HUNT, BRIDGES, and MILLS were appointed a committee to draft a Constitution and By-laws, and report at the next meeting.

The Society met Saturday evening, April 4th, and adopted the Constitution and By-laws as reported. Dr. S. YORK was elected President; Dr. C. A. HUNT, Vice-President; Dr. J. R. PEARCE, Secretary.

On signing the Constitution and By-laws, all present were considered members, viz.: S. York, Surgeon, 54th Ill. Infantry; C. A. Hunt, Surgeon, 126th Ill. Infantry; Henry W. Davis, Surgeon, 18th Ill. Infantry; Acting Chief of Hospitals, J. W. Cameron, Surgeon 62d Ill. Infantry; R. F. Stratton, Surgeon, 11th Ill. Cavalry; H. E. Foote, Surgeon, 22d Ohio Infantry; E. W. Mills, Assistant-Surgeon, 126th Ill. Infantry; E. A. Lee, Assistant, 54th Ill. Infantry; T. D. Washburn, Assistant, 126th Ill.; V. R. Bridges, Assistant-Surgeon, 62d Ill. Infantry; Dr. Buffon, 1st Sergeant in Co. K. 54th Ill.; S. R. Mitchell, H. T. Garnett, J. R. Pearce, Contract-Surgeons in General Hospital; L. C. Halsted, Assistant-Surgeon, 7th Wis. Battery; Lieut.-Col. Allen, Medical Inspector U. S. A., being present, was elected Honorary Member.

The Society meets every Saturday evening. Discussions are held upon the various diseases incident to camp; and an essay is read, by some member previously appointed, and discussed. It is, constitutionally, incumbent upon each member to report any surgical case of interest he may be called upon to treat.

At the meeting on 18th inst., the accompanying essay was read by C. A. HUNT, Surgeon, 126th Ill., and ordered by the Society to be forwarded to *The Chicago Medical Examiner* for

publication, together with the proceedings of the early organization of the Society.

J. R. PEARCE, *Sec'y.*

Book Notices.

THE PRINCIPLES AND PRACTICE OF SURGERY; EMBRACING MINOR AND OPERATIVE SURGERY, WITH A BIBLIOGRAPHICAL INDEX OF AMERICAN SURGICAL WRITERS, FROM THE YEAR 1783 TO 1860. ARRANGED FOR THE USE OF STUDENTS, AND ILLUSTRATED BY 400 WOODCUTS AND NEARLY 1000 ENGRAVINGS ON STEEL. By HENRY H. SMITH, M.D., Prof. of Surgery in the University of Pennsylvania, &c. Philadelphia: J. B. LIPPINCOTT & Co. 1863.

This work is in two volumes of closely condensed matter, each containing about eight hundred pages. The treatise is by no means entirely new, being a sort of a condensation of three of the author's previous works, viz.: his "*Minor Surgery*," "*Operative Surgery*," and "*Practice of Surgery.*" These have been revised and condensed, and several hundred pages of new matter added, to give the whole a complete form. The illustrations are very copious, especially upon the subject of the instruments and operations of surgery.

Prof. SMITH and his works are so well known to the country, that it is unnecessary to review this compilation in detail; suffice it to say, that it contains all the excellencies of the three works embodied in it, together with much valuable matter superadded,—the whole constituting a very complete and full textbook for students, and an excellent work of reference for young practitioners.

Considered as an author, Prof. SMITH has the merit of being very full and minute in his attention to practical details, and, perhaps, carries it even to a fault, by absorbing the readers' attention a little too much upon minor points, and causing him, to a certain extent, to loose sight of the broader and deeper general principles, which give scope to the thought and fertility to the resources of the young surgeon. Considered in a purely

literary point, his style of writing is slightly rough, from the selection of an excess of words containing strong consonants, and his sentences are a little overloaded with polysyllables of Latin derivation. He is, however, perfectly clear in his expressions, and orderly in his arrangement; and his rare faculty of condensation enables him, in spite of a little excess of long words, to express more ideas within a small space than any prominent surgical author on this side of the Atlantic.

The work is sold for twelve dollars; and will be a valuable addition to the library of all who wish to bring down their collection of surgical works to the latest date.

Transactions of the Ohio State Medical Society, 1862.

This is a neatly bound volume of 120 pages, containing the record of proceedings and papers of the Seventeenth Annual Meeting of the Ohio State Medical Society, held ot Ohio White Sulphur Springs, June 17th and 18th, 1862. After the brief record of proceedings, the next twenty pages are occupied by the Annual Address of Dr. M. B. Wright, the retiring president. His subject is "The Idolatry of our People, or the Rebellion in its Medical Aspects;" and it is discussed with all the ability of its well-known author. The next paper is a Prize Essay on the Use of Anesthetics in Obstetrics, by H. Culbertson, M.D., of Zanesville, Ohio. It is a well-written essay, occupying about fifty pages, and is worthy of the attention of the profession. Two brief reports, one on Medical Literature and the other on the Obituary Record of the Society for the year, complete the volume.

Report of the Board of Health of the City and Port of Philadelphia for 1862. By James A. McCrea, M.D., and William Read, Esq.

This is a well-printed pamphlet of about fifty pages, containing much statistical information of value concerning the Births, Marriages, Deaths, and Diseases of Philadelphia during the year 1862.

Braithwaite's Retrospect of Practical Medicine and

SURGERY continues to be published with all its original good qualites, by W. A. TOWNSEND, 39 Walker Street, New York.

LONDON LANCET.—This excellent monthly comes, as usual, richly laden with matter of practical interest fresh from our English brethren. Re-printed by JAMES HEALD, 113 Nassau Street, New York.

Selections.

INSANITY AND INTEMPERANCE.

BY ANDREW McFARLAND, M.D.

From the "American Journal of Insanity."

Among the problems of psychological science which remain to be solved, is, such a discrimination between the manifestations of mental disease and some of the effects of the habitual use of diffusible stimulants as will render reasonably clear the administration of justice in criminal courts. It is not merely with the broad resemblances between insanity and drunkenness that we have to deal, in some of the cases which occur; not the question how far a fit of intoxication renders the individual irresponsible for what he does: but we sometimes have the two states conjoined in the same individual, each with its liabilities and immunities, making a skein of commingled guilt and irresponsibility, which science must disentangle. We must sometimes throw so much light on the tissue of testimony held up before us, that amid all its intertwisting, what is the indelible coloring of disease, and what the transient stain of a vicious habit, shall at once appear. The task is a difficult one, requiring a nice analysis of their differences, and such a bold separation of them that justice may plainly see where to strike.

In two instances, within the last year, the subject of insanity in connection with the excessive use of stimulants, has presented itself in the courts of Illinois, where the two conditions could be viewed in their relation to each other.

The first case, *Keenan vs. Van Horn*, had little of interest, except for the decision rendered, which goes somewhat to open an enlightened procedure in such cases. In this case, suit was

brought by the complainant, Margaret Keenan, to recover possession of certain property conveyed by her husband during his life to Van Horn, while incapable of so doing, by reason of mental disease.

The deceased was long in the habitual and excessive use of ardent spirits, resulting finally, as was claimed, in permanent mental disease. The testimony, which was very voluminous, proved that for fifteen or twenty years, he had been a common drunkard, that his propensity for such indulgence grew more inveterate, terminating at last in his death from dropsy and general decline. Toward the last of his life he had abandoned his family and taken up his residence with Van Horn, to whom he conveyed his homestead and other effects without adequate consideration.

The allegation of his incompetency rested chiefly on certain distinct and strongly marked peculiarities, which always attended him when under the influence of liquor. At such time he fancied himself a military commander, styling himself "Capt. Rock," and would spend many successive days and nights in giving the word of command to imaginary companies of soldiers, whom he extemporized out of sticks of wood, stumps of trees, &c., and that his fits always took that form and no other. At such times it also appeared that he had no adequate idea of the value of money, but spent it lavishly in buying articles for which he had no use, or which he gave away to persons in whom he had no interest. Testimony as to his condition during the intervals between his fits of drinking was somewhat conflicting, though the weight of it seemed to be that, with the exception of his faculties being somewhat blunted, there was nothing very different in him from other men.

In this case it was held that the unvarying recurrence of the mind of the deceased to certain fixed and unchanging delusions, was evidence, notwithstanding the occasion of such delusions may have been induced by indulgence in liquor, that there was radical mental impairment, that there was a difference in his peculiarities from the ordinary phenomena of the drunken fit, the aberrations of the latter being more general or diffuse, and not commonly attended with such special delusions as was shown always to exist in this case. The liquor was claimed to act, in this instance, upon certain always present, though latent, diseased mental traits,—something like the effect of a varnish upon the grain of a wood,—bringing into view what was before invisible, though none the less present.

Judgment was rendered for the plaintiff in this case, from

which an appeal was made to the Supreme Court, which, however, sustained the decision.

It must not be understood that those general but always appearing traits which some persons exhibit when inebriated, are included in this view. Some men, for instance are always dignified, some quarrelsome, and some amorous when in their cups, and some indeed, like Mr. Snevellicci, pass through all those stages in the course of a single bout. A difference will be recognized between this exhibition of some general trait, and that taking up of a special idea, which was held, in this instance, to be indicative of fundamental impairment of the intellect.

This case is cited rather by way of introduction to another of much greater importance, in which this distinction is more clear, and becomes more necessary.

William Hopp was tried for the murder of his wife before the Circuit Court of Cook County, in December last, Judge Mannierre presiding. The trial was protracted, excited deep interest, and has points well worthy professional attention.

Hopp is an Englishman, who came to this country with a younger brother, and settled near the head of Lake Champlain, in Vermont, perhaps thirty years since. Testimony of importance, in regard to the insanity of his mother and his aunt, was ruled out of the proceedings, as technically inadmissable. After residing some time in Vermont, both brothers moved to Illinois, and settled some twenty miles from Chicago. It was proved by the prosecution, by way of derogation of the character of Hopp, that while living in Vermont, he was engaged in smuggling goods across the Canada border. But all testimony in regard to him, since residing in Illinois, showed him strictly upright in every business transaction, and somewhat punctilious in matters of honor and veracity. By great industry and thrift, he acquired a handsome property, and was living, at the time of the homicide, in a style much above the average of his neighbors. It may be mentioned that Hopp had always used ardent spirits freely, though not regarded as an intemperate man. Some years after coming into the State, the younger brother became incontestably insane, and still remains so, though residing with, and cared for by his brother.

Twelve years ago William Hopp, while repairing a bridge, was exposed for several days in succession to a thorough wetting, and an obstinate dumb ague was the consequence. At this distance of time it is impossible to get at the exact state of his mind during this illness. But it appears that, while still

suffering under its effects, he had a trifling difficulty with one of his neighbors, whose horse had died while in his (Hopp's) hands, though in no way made diseased by any labor or ill-usage. After some dispute, an arbitration followed, in which it was decided that Hopp should pay half the value of the animal. He appeared unusually disturbed by this transaction; his mind seemed to dwell upon it to the exclusion of almost everything else. He fancied it not less an act of injustice than an imputation upon his personal honor. What increased his vexation was an idea that his wife was indifferent to his interests in the transaction; and this impression finally changed into a conviction that she was in complicity with the arbiters who had made the decision.

From this period commenced a course of personal abuse, occurring in paroxysms, in which he charged her with unchaste conduct, at first with these particular parties, and at length with a prostitution almost indiscriminate. It may be mentioned that no woman could exist in whom such accusations could be more unfounded. These periods of abuse were strictly periodical, leaving him, during the interval, affectionate and considerate as other men. But they increased in frequency and length, sometimes continued with hardly any cessation for two or three successive days and nights. This abuse commenced, at first, in the form of remonstrances against her unchaste conduct. Then it took the form of most profane and obscene epithets, coupled at last with extreme personal violence. He never applied any epithet to her except such as denoted unchastity. In the presence of others, during all the early part of this period of ten years, he treated her with due consideration. Only his children were witnesses to it, by overhearing him after he and his wife had retired. But at last the presence of his children, and finally of strangers, made little difference. These paroxysms were attended by the consumption of large quantities of liquor, and the degree of his abuse of his wife was measured, in the estimation of his neighbors and children, solely by the depth of his potations. Sometimes, exhausted by this protracted persecution, she would leave him, threatening not to return. No sooner would she be out of his sight than he seemed a changed man. He would abstain wholly from drink, become penitent and full of self-reproaches, write beseeching letters imploring her return, and even take oaths before a magistrate to abstain forever from liquor, upon which he charged all his conduct. But as soon as she comes again in his sight, the same abuse is renewed, even before they had reached the house from the ears

in which she had returned. During these years, all the testimony showed that as a father and a neighbor he was exemplary. He was a man reserved in the extreme in imparting his confidences, and never, except in occasional obscure hints, disclosed his impressions regarding his wife's unchastity. He clearly did so, but in rare instances, and only to those in whom he had most implicit confidence.

His wife seemed the only person who had any idea of the true cause of his singular conduct. That she had such idea, appears from her frequently advising him to take calomel and other medicine.

In the month of June, 1862, he returned in the evening from a neighboring village intoxicated, but not as much so as on many former occasions. He commenced his abuse in the usual terms, to which she made little reply, when, as she was seeking to evade him, he struck her, while passing, with a knife, which inflicted a wound in the abdomen, of which she died about twelve hours afterwards. On the assembling of the neighbors, Hopp appeared perfectly calm and unconcerned. He calls them to witness his present sobriety, tells them the act was a deliberate one, and contemplated for the past ten years.

Just previous to his trial, the writer of this article visited him in the jail, the prisoner having no idea whatever of the person, or the object of the visit. The prisoner is about fifty-eight years of age, rather above the common height, and of fair intelligence for one of his class. His honesty and sincerity are unquestionable, and his statements in regard to the tragedy and the ideas antecedent to it, bear the stamp of perfect ingenousness. He went into a lengthened narrative of his troubles, commencing with the arbitration in reference to the horse. The proofs of his wife's infidelity, which he circumstantially narrates, are the merest "stuff of which dreams are made." As evidences of the trifles on which the insane base their delusions they possess a certain degree of interest.

On one occasion, for illustration, when a son was born to Hopp, certain acquaintances, and among them one of the arbiters in the horse case, assembled in honor of the event. A toast was drunk complimentary to Hopp, especially in relation to his ability to beget children. This he regarded as clear proof that the proposer of the toast thereby acknowledged the guilt of which Hopp had previously suspected him. A remark made afterward by the same individual, that "women were good creatures," was conceived to have the same import. As was before remarked, his conviction of his wife's infidelity so

widened, during the last of her life, as to include most persons who even approached his dwelling. An individual who had called to purchase some onions, in Hopp's absence, was regarded by him as the father of one of his children, and, on calling at the house some months afterwards, the child was brought out by Hopp and introduced, by way of test, as "the little onion boy." In narrating the circumstance of this introduction, Hopp concludes with the remark that if the individual thus accused had "spoke volumes of confession, it would not have been equal to the look of guilt which that introduction created."

No one at all acquainted with the manifestations of mental disease will fail to recognise a state of mind of which such ideas as the above form a texture, as insanity of the most unequivocal type. Yet, never was there prisoner arraigned at the bar more completely shorn of every vestige of sympathy, or who stood entirely alone in his extremity. Fully justifying himself in what he had done, he seemed to conceive that all he had to do was to make statements, of which the narration is a specimen, to convince all others of his innocence. He had no idea, before the trial, of the plea which was to be set up for him. No testimony against him was so unrelenting as that of his adult daughters', who urged the prosecution with a vindictiveness as great as if the blood in their veins was drawn from the most opposite sources.

An attempt was made by the expert testimony, to show that the violent conduct of Hopp for ten years before the homicide was purely the result of a delusion; that, dating from about the time of the arbitration, he was an insane man; that his insanity was evidently hereditary, though induced by the illness of which mention has been made; that his delusion having assumed the form it did, was merely accidental, and that it was no more strange in him to have accused an innocent woman of promiscuous intercourse with chance-comers to the house, than are the innumerable other forms which the mysterious disease of insanity perpetually puts on. The cool-blooded atrocity of the act of homicide, and the indifference and self-justification of its perpetrator were shown to be strictly in accordance with the nature of mental disease, as it existed in the prisoner; that, believing her continuance in guilt was more to be deplored than her death, he become her executioner, and, by the perverted operation of his reasoning powers, he expected justification for the act he was committing.

It was urged that the habit of drinking was not the sole cause of the homicide, as contended for by the prosecution, but a

mere incident, having, quite likely, little or nothing to do with the disease; that, had his conduct proceeded from indulgence in liquor alone, he would have shown quarrelsome and violent dispositions toward others as well as his unoffending wife; that the special terms which he invariably used toward her were significant of the singleness of the idea under which he existed; that, had the fatal blow been struck as the mere impulse of a drunken fit, the consequences of what he had done would have so shocked him as to have driven the fumes of liquor from his brain at once, and produce a paroxysm of remorse, while his whole demeanor, from that time till the inquest, was that of indifference and self-justification.

It was further shown that the change which took place in the mind of the prisoner when his wife was absent, was one of the ordinary phenomena present in all cases of delusion, and in accordance with the law of mental disease; that where a delusion appends to another person, it disappears for the time being when the person is out of sight, and the fact of delusion is proved by the disappearance or the idea with the disappearance of the person to whom it relates. The clearly defined beginning of his altered conduct towards his wife, is also cited as one of the proofs that his conduct was the result of disease, and not of intemperate indulgence. It does not appear in any testimony, that his treatment of his wife was unkind, till the time of the arbitration before alluded to; and yet he was decidedly intemperate many years before that transaction.

Much stress was laid, in the prosecution, upon the oft-repeated declaration, "that he never abused his wife except when he was in liquor." This may all be true, and yet, if accepted as a bald statement, allows a fatal prejudice to enter into the case. It needs no wide experience to show how commonly the approach of a fit of paroxysmal insanity is signalled by an inordinate thirst for artificial stimulants, and how certainly the subject of that form of disease will avail himself of them if within his reach. William Hopp, with ample means, was always prepared thus to feed a natural excitement with an artificial one, and he always did so, is merely proof that the coming on of the paroxysm was invariably attended with certain irresistable cravings. So far from it being a fact, that the homicide was merely the result of this indulgence, the theory is by no means untenable that the habit of drinking actually postponed the fatal tragedy, upon the well-known principle in mental philosophy, that the purposes of the will are dissipated and made ineffective under the diffusive tendencies of alcoholic stimulants.

In all human probability, in this instance, the fixed purpose of the lunatic was sometimes lost sight of in the windy brawl of the drunkard.

The charge of Judge Manierre is worthy of being quoted at considerable length. Viewed in the light of an attempt to make a difficult subject understood by a jury of plain men, it is certainly a success. Though there are many ideas in it at which exception would be taken, it has certainly the merit of great lucidity, and stands in striking contrast with the "muddle" uttered from the bench in the case of Real, quoted in the last Journal of Insanity. It may be remarked, that some of the former expositions of the law of insanity promulgated by Judge Manierre, especially in the Green case, tried in Chicago some eight years ago, entitle his views to high consideration, and will be regarded, even by those who differ in some of them, with sincere respect. It should be explained that during the trial, the usual passage-at-arms took place between the counsel for the prosecution and a witness expert, on the subject of *moral insanity*—wholly foreign to the points of the case, and intended for mere effect. The somewhat lengthened discussion of this subject may have led the Court to the frequent allusions to it, which appear in the remarks from the bench:—

REMARKS IN GENERAL.

"A crime," says Judge Manierre, "is defined as a violation of a public law, in the commission of which there shall be an union of act and intention. Intention is manifested by the circumstances surrounding the act, indicating its motive or object, and the sound mind and discretion of the accused. A person shall be considered of sound mind who is neither an idiot nor lunatic, nor affected with insanity, who has a knowledge and consciousness of the distinction between good and evil. In this case, the homicide is admitted, but the accused alleges that at the time of the commission of the act his mind was so affected with insanity, that his moral sense and will were subjected by it, and he was oblivious to the moral quality of the act. The law presumes the sanity of every person charged with a criminal act, and that such act is the result of volition influenced by motives acting upon the mind. Hence the burden of overcoming this presumption rests upon the accused; but when insanity is satisfactorily shown, it is the duty of the jury to acquit, as in such case there is an absence of intention which is essential to a criminal act.

"Insanity is, generally, classified into moral and intellectual.

and is either general or partial. Moral insanity consists in a disorder of the moral affections and propensities without any symptom of delusion or error impressed upon the understanding. Intellectual insanity is a disorder of the intellect, and is characterized by delusion or hallucination of mind, manifesting itself either in the belief of things naturally impossible, or of facts so implorable when considered in connection with the evidence upon which the belief is formed that no person in his senses could believe them. But these general definitions do not afford to the unprofessional mind a sufficiently clear and comprehensive idea of insanity thus classified and defined, to enable it to apprehend those distinctions of science and law which are necessary to the formation of a judgment in this case. And it is due to the accused when such tremendous issues are involved as here, that those distinctions should be marked and defined with the utmost care and exactness by the court.

"The mind, in its more general sense, includes not only the powers of the understanding, as perception, reflection, imagination, memory, will, and judgment, but also the moral sense or conscience, and the disposition, propensities, affections, and passions. The passions, inclinations, and propensities indicate the state or impulses of the mind, and constitute what are termed the moral powers, as contradistinguished from the intellectual. The action of the intellect can only manifest itself to the observation of others through the action or conduct of the individual. All actions proceed from the passions or from motives acting upon the mind and influencing the judgment and will. We judge of the character of a man by his conduct, and as that is regulated by just or evil impulses, we determine the moral constitution of his mind. When, therefore, we speak of the moral powers, we are understood to refer to the propensities, disposition, or temper of the mind; whilst on the other hand, when we speak of the intellectual powers, we refer to the faculties of judgment, will, and conscience.

"Thus constituted, man is regarded by law as a free moral agent, endowed with the power of volition or choice among different motives presented to the mind, and of determining whether his conduct shall be good or evil. It also assumes that every man has the power of determining whether an act is right or wrong, and that upon the existence of this moral sense and freedom of will that all law, human and divine, bases its authority and its sanctions. If a man was obliged to do exactly what he does—if, in other words, he had no liberty of

choice between good and evil, and his judgment and will must yield to any motive, impulse or passion acting it—then the whole system of criminal jurisprudence is founded upon an error, both fundamental and ineradicable. Free and moral agency implies the entire subordination of the passions and propensities, or moral powers, to the will, and the power of the will to control them, and assumes that all the outward acts and conduct are directed or suffered by the will, and hence that they are voluntary. On this principle, society, in all its relations, reposes. It is applied without regard to the moral training of the individual in youth, or to irritability of disposition arising from disease, or from temper, or passions habitually indulged. However perverted the moral sense or strong and uncontrollable the passions, the individual is, nevertheless, presumed to be possessed of a sense of right and wrong, and the power to control the will and to act from choice, and this presumption cannot be rebutted by any evidence which falls short of proof of insanity.

OF INTELLECTUAL INSANITY.

"We may now perceive more clearly what is meant by insanity, both mental and moral. And first of intellectual insanity:—The characteristic mark of this affection or disorder of the intellect, is delusion or hallucination, and is either general or partial. In general mania, the hallucination extends to all kinds of objects and subjects, and generally manifests itself in frenzy or raving madness. In monomania or partial insanity, the hallucination is confined to a single object or a small number of objects. This is the species with which we have here to do.

"Its true legal characteristic is delusive, or that state of the mind which is indicated by a belief in something, in itself, morally impossible. As, that trees walk, statues nod; or in the belief of a state of facts, in their nature, morally possible, but of the existence of which there is an entire absence of all reasonable grounds of belief. It also sometimes manifests itself in a belief of a direct revelation and of a controlling and irresistable sense of obligation to obey the revealed will.

"This state of the intellect indicates the existence of a disease, which, in its effects, subjects the will, judgment, and conscience to the imagination with respect to the subject of the insane belief. *The influence of such belief or delusion over the mind is much greater than the power of any conviction or belief in the mind of a sane person, and directs and controls the will,*

judgment, and moral sense with inconceivably greater force. The individual thus affected may be able, in most respects, to reason correctly on any subject beyond the range of his hallucination, and be not unfitted for the intelligent care and oversight of his business. Nor is the power of judgment and reasoning disturbed in any perceptible degree, even with respect to the subject of the delusion, as his conduct and reasoning are as logical and rational with respect to it as if the facts constituting the delusion were real and not imaginary.

"The law, as well as medical science, recognises all these forms of mental insanity, and has certain established principles applicable to the subject. For obvious reasons, a higher degree of insanity must be shown to absolve a party from the consequences of criminal acts than to discharge him from the obligation of his contracts. A man is not to be excused from responsibility if he has capacity and reason sufficient to distinguish between right and wrong as to the particular act he is then doing, a knowledge and a consciousness that the act is wrong and criminal. But in these cases it is not deemed sufficient that the individual has a general knowledge that the act is wrong in its nature, because this general knowledge may well consist with delusion as to the moral quality of the act, when considered in reference to the person and the circumstances believed to exist, and which in themselves constitute the delusion or insanity. There may be insane delusion with respect to one's moral duty under such circumstances, as well as in the belief, which is the primary evidence of unsoundness of mind. From whatever cause the power of the will or conscience may be subjected or perverted by an insane affection, self-agency ceases, and acts done under the influence thereof are neither criminal nor punishable, because they are not considered voluntary. For this reason the law will excuse homicide on the ground of partial insanity in the following cases:—

"*First.*—When the accused takes life under circumstances in which the act would be excusable if the facts constituting the delusion had an actual existence, and were not mere hallucinations, as in defence of life or habitation.

"*Second.*—When the act is done under a delusive belief of a Divine command and overruling necessity, or under a controlling sense of moral duty, which deludes and misleads the understanding and conscience with respect to the moral quality of the act.

"*Third.*—When the delusion consists in the belief that a wrong has been done to the accused in a manner, which, if true

as believed, would not excuse homicide, but he is at the time of the commission of the act, so affected by the disease as to be incapacitated from knowing that he is doing wrong, and is unconscious of wrong. But where such knowledge and consciousness exist, the accused cannot be acquitted on this ground, as the act will be treated as one of revenge."

Certainly, the above will be accepted as very fair elucidation of the principles of mental disease, as they apply to the general order of cases. The nature, and especially the force of a delusion, (expressed in the passage italicized in the re-print,) will be regarded as very well conceived, though few will agree in a subsequent statement that "a higher degree of insanity must be shown to absolve a party from the consequences of criminal acts, than to discharge him from the obligation of his contracts."

The popular idea of "moral insanity" is well expressed in the following observations. All is certainly conceded which the most strenuous advocate of that distinction of a disease can desire. The industrious distribution of the "Huntingdon trial" —that scientific *morceau* being the sum total of the literature of insanity which many a Western law library can boast—has given those who oppose the plea of insanity, indiscriminately, some excellent matter for ridicule. As before hinted, those who now sustain the plea of insanity as witnesses, have to meet the broad burlesque on the subject which this book virtually amounts to. A proposition was actually made in the Hopp trial to quote its medical opinions as the sanctioned views of "the doctors!"

OF MORAL INSANITY.

"As defined by those medical writers who treat this disease, it consists in the existence of some of the natural inclinations, dispositions, or propensities, in such violence that it is impossible not to yield to them. It is attended with no delusion or disorder of the mental faculties in any notable degree, and the mind is conscious of right and wrong while under its influence. And yet, notwithstanding this consciousness, the mere violence of the inclination to commit the act is so great as to overthrow all the power of resistance which the mind may be able to oppose to it. Under its influence the individual ceases to be a moral agent. When manifesting itself in the homicidal form, the inclination and desire to kill, is often indiscriminate in its violence, sometimes directing itself against the life of persons indifferent to the sufferer as well as against objects of affection and friendship, and it is impossible for him to restrain the uncontrollable fierceness of the impulse or desire. The act is

never influenced by revenge or any of the passions or a desire to gain temporal advantages from the homicide. It is said to overcome the power of self-control, and to act without motive of any kind, and frequently without premeditation, and consists in the mere violence of the propensity or disposition by which the will is overcome.

"Most certainly, if this form of insanity has any existence, the doctrine of free agency can have no application to one affected with it. It is at least of exceedingly rare occurrence, and its manifestations, as it has been observed, bear a striking resemblance to crimes. Nevertheless, it is recognized by the medical profession, though it has been rejected by the English courts of justice as apocryphal. Yet it has been adopted by some courts of very high authority in this country, and what is of more consequence to us, it is implicitly recognized by the Supreme Court of this State in the case of Fisher. It is true it was not adopted in that case upon solemn consideration. Yet it must be regarded as the law of this case. But in saying this, it is my duty to add that it was regarded as so perilous in the administration of justice by the Court which first promulgated it as a principle of legal science, as to induce the observation, that this mania is dangerous in its relations, and can be recognized only in the plainest cases. It ought to be shown to have been habitual, or at least to have evinced itself in more than a single instance, or from its circumstances to bear unmistakable marks of instinctive and uncontrollable impulse. "Where this affection is alleged," says Dr. Ray, whose authority is one of the chief supports of this opinion, "in excuse for crime, it must be proved, first, that it was really present; second, that it had arrived at that stage in which its impulses are irresistable; thirdly, that it should be the exclusive cause of the criminal act.

"Governed by these rules there can be but little difficulty in determining the presence or absence of this disorder when it exists, and is really the cause of the criminal act, as it may be said that there can be no reliable case of moral insanity where any strong motive, or passion, or other exciting or adequate motive is found in the evidence. Hence, where the criminal act can be traced to a desire of gain, or to hatred, revenge, jealousy, or any other strong passion, excited by drunkenness, the act must be ascribed to such motive or impulse, and not to that irresistable impulse which is said to constitute the distinguishing characteristic of the disease."

Truly unfortunate has it been for our professional specialty,

that the term "moral insanity" has ever had mention. The phrase itself is a luckless invention, not only liable to an infinitude of misconception, but conveying ideas calculated wholly to mislead. It is as if there was some separate kind of insanity, located in some *terra incognita* which no man has yet discovered, wholly independent of the brain or any of its functions or operations. What is its seat or what are the organs of its abode or production, are questions which those who employ the term are themselves puzzled to answer. It does not seem to be considered by those who give currency to the expression that the whole idea implies another centre of sensations, emotions, or passions, than their legitimate one, the brain.

In the first place, it may seriously be questioned whether such a case as is usually described to set forth the idea, is ever actually seen. Experience brings before the mind a multitude of cases, not actually realizing the full idea, but which are close approximations to it. Now it is this close resemblance between cases which do exist and a certain ideal of disease borne in the imagination which leads us astray. The small difference which does exist between the case which every one has in hand and the ideal one, is always enough to destroy the value of the instance.

It has always seemed as if all that is included in the idea of moral insanity, might be better disposed of by a closer reference to phenomena of insanity which are of every day occurrence. Every one realizes how few of the delusions of the insane mind are ever revealed, and how readily they are revealed under one set of circumstances and concealed under others. All insane asylums abound in cases of unquestionable mental disease, where its palpable manifestations are so slight that the unskilled observer would doubt its existence. A certain suspicious reserve, a mysterious shyness of manner, some haughtiness of bearing, or some thing marked and singular in gait, or tone of voice, some strange attachment to a particular seat, or special stress applied to the doing of some trivial act, may be all that distinguishes the individual from other men. Yet one guided by experience has no hesitation in declaring such cases to be instances of latent delusion; and is prepared for the sudden exhibition of extreme or violent acts of which any of these almost unobserved antecedent peculiarities furnish the explanatory key. In such cases, the extent of the disease is not at all measured by what appears on the surface.

The delusion which has possession of the mind may even have no outward form of manifestation whatever, that can be

detected, and yet may give rise to all those singular, inexplicable, and perhaps violent acts, which a failure to explain by any anterior indications of delusion has styled moral insanity. It is very easy, especially with those much conversant with the insane, to conceive a case possessing all the attributes assigned to the form of disease here called in question; but before admitting any such case as an existing fact, the possibility of a latent delusion underlying its characteristic perversities of conduct should be deeply considered.

It may be said, in reply to this view of the subject, that it assigns to delusion too indispensable a place in all cases of insanity, whereas it is well known that in many cases of even partial mania no such feature is believed to exist. This does not necessarily follow. Delusion among the insane may be supposed to bear about the same relative part in their unnatural acts that a well defined motive does in the acts of those who reason correctly. Persons possessed of reason perform the larger portion of their acts from no actually considered motive of which they are conscious. Acts are done from an impulse which is, after all, the result of some former reasoning process. So the phenomena of moral insanity, so called, may follow some former delusive process of thought of which the individual himself has no consciousness, and which, of course, no skill of another can detect. If this explanation is not in all cases satisfactory, it at least has the merit of enabling us to pass a stumbling-block now almost invariably thrown in our way whenever we appear in court.

THE PEOPLE'S INSTRUCTIONS.

"In applying the principles of the law of insanity as thus defined, to the particular circumstances of this case, the Court instructs the jury on the part of the People, and in their behalf, that if they believe from the evidence:

"*First.*—That the mind of the accused was affected with insanity, only while in a state of drunkenness, and that with a knowledge of this predisposition and of right and wrong, the accused voluntarily put himself in that state and committed the act with which he is charged, the act in that case is criminal in the same degree as if there had been no predisposition to insanity when under the influence of drunkenness.

"*Second.*—That even though the jury should find that the accused was affected with insanity by reason of a delusion in regard to his wife's fidelity, yet if they further find that at the time he committed the act he had a perfect knowledge of right

and wrong with respect to the act itself, and was under no delusion with respect to its moral quality, then the law regards him as a moral agent in the commission of the crime and subject to its penalty.

"*Third.*—That insanity produced immediately by intoxication does not destroy responsibility, and if the jury find from the evidence that the accused, while sane and responsible, voluntarily intoxicated himself, and in that state committed the act, they will find him guilty.

"*Fourth.*—That if the jury believe from the evidence that the accused, when free from the influence of intoxicating drinks was uniformly sane and rational, and forbore all violence towards his wife, and that for a series of years prior to the commission of the act in question, he was accustomed, in fits of intoxication, to use violence upon her, and knew that such violence was the immediate result of such intoxication, and that having such knowledge he voluntarily made himself intoxicated on the day of the homicide charged in the indictment, and that such act was the immediate result of such intoxication, then the defendent is responsible for the crime, although he might have been laboring under some insane delusion at the time.

"*Fifth.*—That if the act was done by the accused under the influence of passions excited by drunkenness, or jealousy, or hatred, without provocation on the part of the deceased, or any danger to life or limb, that in that case the accused is not entitled to be excused from the consequences of the act on the ground of moral insanity, however strong or irresistable the passion may have been under which the act was perpetrated.

"*Sixth.*—That if the jury find that the accused was actuated by malice, jealousy, or other feeling of hatred, or from passions excited by drunkenness, at the time of the killing, then he is guilty of the crime of murder, though the jury may find that he was affected with insane delusion with respect to his wife's chastity."

Now, this will certainly be regarded, in view of some points in the evidence, as rather hard measure for the prisoner. The second and fourth parts of the instructions must bear upon the accused with little less than fatal effect. Granting the great material fact that the prisoner is an insane man, it hangs his only hope upon what a jury may conceive to be a "perfect knowledge of right and wrong with respect to the act itself." The effect of this position is to show that a mind may be radically diseased, and yet, upon the very point on which it is dis-

eased, a nice and logical reasoning may, and indeed does, go on as to the quality of the act being done. It forces the prisoner to become a casuist while pressing forward to a violent act, under the irresistable control of an insane delusion. If Hopp believed, on grounds insanely wrong, that his wife was wickedly unfaithful—bringing ruin and perdition on herself, and disgrace on her family—and regarded her death as necessary, and, as he informs the by-standers after the fatal blow had been struck, "meditated for ten years," could he have had "a perfect knowledge of right and wrong with respect to the act itself," as we understand the general ability of an insane mind to compass such knowledge?

The effect of setting aside the actual degree of the mental disease as a measurement of criminal responsibility, and substituting a fancied perverted use of the canons of good logic, as applied to some unnatural transaction, is seen at once. The fatal tendency of allowing a certain knowledge of right and wrong in regard to the acts of the accused to set aside any extent of insanity without that knowledge, is clearly shown in this case. When the delusion was lifted from his mind, by the absence of the object of it, as an inducement to procure her return, he actually acknowledges the wrong of his ill-treatment, attributes it to liquor, and promises, under oath, to drink no more. Yet who does not see how unjust to the prisoner is this self-conception of his wrong when it is viewed by others in connection with his disease? In the "good time coming" we shall probably have done with all this, and deal more with the simple question of the actuality and degree of the insanity, and of the disjointing of the reasoning processes generally.

INSTRUCTIONS FOR THE DEFENSE.

"And the Court, on the part and behalf of the accused, further instructs the jury:—

"*First.*—That if they believe from the evidence that the accused was at the time of the killing not drunk, but laboring under a fixed and insane delusion as to his wife's infidelity and want of virtue, and that such delusion operated so powerfully upon his understanding and will as to render him incapable of perceiving or being sensible of the moral quality of the act, or knowing and acting upon the principle of right and wrong, in relation to the act, then such insanity entitles him to an acquittal on the ground that he was not a free moral agent.

"*Second.*—That if they believe from the evidence that the act of killing was the offspring and consequence of insanity in

the accused, and not induced by drunkenness, hatred or malice, and that such insanity was the offspring of delusion in regard to his wife's chastity, and so great as to overcome the will and obliterate all consciousness of right and wrong with respect to the act, or induced a fixed and insane belief that its commission was one of duty, then the jury should acquit, although they may believe that the accused was capable of reasoning correctly, and impressed with clear perceptions of right and wrong, with respect to the act of killing in general.

"*Third.*—That if they believe from the evidence that at the time of the commission of the act charged, the mind of the accused was laboring under an insane delusion caused by disease and not excited by drunkenness, with respect to the existence of facts, which if true would excuse homicide—as that a known felony was about to be committed—and that overcome and impelled by such delusion the accused took the life of the deceased to prevent, in his insane belief the commission of the felony, then the act of killing must be considered the direct effect of disease and not of a mind capable of volition or choice.

"*Fourth.*—That if they believe from the evidence, that the homicide committed by the prisoner was not the act of a man operated upon by motives and governed by the will, but the result of a mere uncontrollable impulse, communicated to his mind from insanity of the moral powers, and not by motives of hatred, jealousy, or drunkennesss, or other passion impelling to the act, then the act was one of moral insanity. But in determining this question, the jury should have reference to the more exact definition of moral insanity given in previous instructions on this subject.

"*Fifth.*—That if they find from the evidence that at the time of the killing, the mind of the accused was affected with insanity caused by disease, and that the act was the effect of such insanity and not of passions or insane delusions resulting direct from voluntary drunkenness, then the defendent stands excused on the ground of insanity. But in such case the jury must be satisfied that the insanity was of such a nature as to obscure the mind with respect to the moral quality of the act or induce the belief that it was necessary in self-defence; for though insane delusion may have existed, yet if it was not of such a character as will excuse homicide, the accused is not entitled to an acquittal on that ground.

"*Sixth.*—That if they find that at the time of the homicide the accused was affected with such insanity as would excuse from the consequences of acts otherwise criminal, then the

homicide is excusable on the ground of insanity, though the jury may believe from the evidence that such insanity was occasioned by past excesses of drunkenness. Where a person is insane he is not responsible criminally, although such insanity be remotely caused by indulgence in spirituous liquors. But it is otherwise if he is intoxicated at the time, and his insanity or delirium is the direct and immediate effect of such intoxication.

"*Seventh.*—That if the jury are convinced from the evidence, that the killing was the immediate effect of an insane delusion, concerning his wife's chastity, so affecting his mind as to control the will and obscure his perception of right and wrong with respect to the act, and that such state of mind was not the effect of passions excited by ardent spirits, then the act is excusable on the ground of insanity, though he may have been drinking. But the conviction of the mind on this point should be clear, and care should be taken not to confound passions excited by liquor with those which are the natural effects of insanity. For if insanity existed, but would not have manifested itself in homicide if it had not been stimulated by excitements caused by liquor, then the act is not excusable on the ground of insanity. But if the jury can reconcile the evidence tending to prove drunkenness, with a conviction drawn from the evidence that the act was one of insanity and not the effect of drunkenness, it is their duty to refer the act to insanity, and acquit the prisoner on that ground.

"*Eighth.*—That if the jury shall find that the accused, before the commission of the act, was affected with insanity of a nature to obscure and overcome his moral perceptions with respect to the act committed, then the burden of proof is upon the prosecution to show that he was not affected with such insanity at the time of the killing."

An examination of the above will show how little the accused has to hope from any instructions which will not recognize the disease and the vicious habit as two incidents, to be separately considered. The first section, for instance, can be of no effect, because the defence does not deny the fact of the drinking on the day of the homicide, probably to the extent even of intoxication. The insanity and the drunkenness are put too much in the light of incompatable states to enable the idea of the former much to aid the accused. The fatal idea that the prisoner was *either* insane or drunk, was that which a juryman, not much in the habit of thinking, would most likely entertain; and the instructions of the Court fail to give the prisoner all the advantage which his defence claimed for him in not recognizing drunk-

cuness as possible to be superadded to insanity, and allowing the onus of the crime to fall upon the permanent state, and not upon the accidental one. The references to the condition of drunkenness through the following sections of the chapter, except the last, sustain the same connection of the two ideas, and allow the mind the easy duty of merely holding the two states as incompatible—connecting the one always with the idea of guilt, and the other only with the possible one of innocence. If the idea of the eighth section had been the leading one through all the instructions to the jury, it is evident that a new complexion would have been given to the case.

It is an unfortunate omission in these instructions that the minds of the jury were not as much carried back to the idea of premeditation as the evidence warranted, but allowed to contemplate the act as one of impulse merely. In what does the actual guilt of the crime of murder consist? Not alone, or principally even, in striking the blow that deprives of life, but in that premeditation which resolves on, and shapes the manner of the deed. The law recognizes this by holding him guilty who aids or countenances this premeditation of a crime. Now, taking the prisoner's solemn declaration, an hour after this homicide, it had been the intention for years. That deliberate purpose could not have been the effect of drunkenness; and if not, what was it but insanity?

CONCLUDING INSTRUCTIONS.

"In conclusion, the Court instructs the jury, that it is their duty to give a careful consideration to all the facts and opinions in proof, throwing light upon the insanity of the prisoner at the time in question. On this subject, medical opinions and evidences are entitled to attentive and respectful consideration. And if the act is proved to the satisfaction of the jury, by the weight and preponderance of the evidence, to have been one of insanity only, the prisoner is entitled to an acquittal, *though that defence should not be proven beyond all reasonable doubt.*

Whatever of criticism may have been bestowed on any of these preceding observations, the italicised portion of the above is a concession to the plea of insanity that will certainly procure for Judge Manierre the regard of those entrusted with the interests of the insane. It is the first time, to our knowledge, that insanity has been allowed the same privilege as actual crime, in having the "benefit of a doubt." Hitherto, while all doubt in ordinary criminal prosecutions enured to the prisoner's benefit, doubts in regard to sanity did those who denied it in

plea, no good whatever. The proof of insanity must be positive, or else was set aside as of no sort of weight. Slight though this enunciation may be, it should be treasured as the dawn of new and better things in this department of jurisprudence.

The prisoner was convicted of murder, though it is believed that another trial may be had.

Editorial.

ILLINOIS STATE MEDICAL SOCIETY.

The Eleventh Annual Meeting of the Illinois State Medical Society convened in the Old Presbyterian Church, in Jacksonville, at ten o'clock A.M., of May 5th, 1863.

The meeting was called to order by Dr. D. Prince, Chairman of the Committee of Arrangements, and in the absence of the President and permanent Secretary, Dr. H. Noble, of Heyworth, was appointed temporary Chairman, and Dr. M. Shepherd, temporary Secretary.

The Committee of Arrangements reported the following delegates and new members present, viz.:

Dr. A. McFarland, of Jacksonville, Illinois,
" J. M. Steele, of Grandview, Illinois,
" F. B. Haller, of Vandalia, "
" M. Shepherd, of Payson, "
" A. H. Luce, of Bloomington, "
" H. Noble, of Heyworth, "
" N. English, of Jacksonville, "
" H. Jones, of " "
" D. Prince, of " "
" J. Frazer, of Howard's Point, Illinois,
" N. Wright, of Chatham, "
" W. M. Landon, of Burton,
" R. E. McVey, of Waverly,

" B. Wilson, of Chambersburg, Illinois,
" Josh. Rhoads, of Jacksonville, "
" A. P. Tenney, of " "

Dr. Prince, in behalf of the Committee of Arrangements, submitted the following order of business:

First day, morning session devoted to business. Afternoon session, from 2 to 4 o'clock, devoted to business. At 4 o'clock P.M., visit the Institution for the Blind.

Second day, morning session devoted to business. 2 o'clock P.M., dine at the Hospital for the Insane. 4 o'clock P.M., visit the Asylum for the Deaf and Dumb.

Dr. A. H. Luce moved the appointment of a committee of one from each county represented, to nominate officers for the ensuing year.

Pending this motion the following additional members arrived and took their seats, viz.:

Dr. N. S. Davis, of Chicago, Illinois,
" E. L. Holmes, " "
" J. H. Hollister, " "
" E. Andrews, " "
" J. R. Askew, of Jacksonville, Illinois.

The motion of Dr. Luce was then adopted, and the following Committee on Nominations appointed, viz.:

Dr. F. B. Haller, of Fayette county, Illinois,
" A. H. Luce, of McLean " "
" E. Andrews, of Cook " "
" M. Shepherd, of Adams " "
" N. Wright, of Sangamon " "
" A. McFarland, of Morgan " "
" B. Wilson, of Pike " "
" J. M. Steele, of Edgar " "

The Minutes of the last Annual Meeting were read by the permanent Secretary, N. S. Davis, and approved.

An invitation to visit the Illinois Institution for the Blind, at 4 o'clock P.M., was received from Dr. Joshua Rhoads, Superintendant, and accepted by a vote of the Society.

Reports from Standing Committees were called for, and the committees called in order as follows:

Committee on Practical Medicine. No report.
do on Drugs and Medicines. No report.
do on Obstetrics. No report.

Committee on Surgery being called, in the absence of the Chairman, Dr. A. W. Heise, Dr. E. Andrews stated that he had partially prepared a report, an abstract of which he would present during the afternoon session.

Dr. D. W. Stormont, formerly of Grandview, Chairman of the Committee on Registration of Births, Marriages and Deaths, sent the following report, which was read by the Secretary, viz:

The Committee on the Registration Law would report, that early in January the petition of this Society and a bill for a law, were forwarded to Hon. T. A. Marshall. They were presented to the Senate, and referred to the Committee on Judiciary, where they still remain in spite of all our entreaties.

In the present distracted condition of the country, we cannot recommend any measures as likely to be efficient in securing the passage of this law. Hygeia is deposed; Mars now reigns supreme. Perhaps at our next annual meeting this condition of things will be reversed.

Respectfully submitted, D. W. STORMONT,
Chairman Com.

On motion of Dr. F. B. Haller, the report was accepted and the committee discharged.

Dr. D. Prince, Chairman of the Committee to petition the Legislature in favor of provisions for the training of idiotic and imbecile children, reported, that in consequence of the condition of the country, nothing had been done by the committee during the past year. On motion of Dr. Hollister, the committee was continued.

Dr. E. L. Holmes, in behalf of the Committee on Prize Essays, reported, that the only paper in the hands of the Committee was the one referred to at the last meeting: and on it he was not authorized to report by the other members of the Com-

mittee. On motion the Committee was requested to complete the examination of said paper, and report the result to the Committee of Publication, as early as possible.

The annual report of the Treasurer, Dr. J. W. Freer, was presented by Dr. Holmes, accepted and referred to an auditing committee, consisting of Drs. E. Andrews, E. L. Holmes, and F. B. Haller.

Dr. J. D. Grissim, of Jacksonville, was proposed for permanent membership, by Dr. N. English, and unanimously elected.

On motion the Society adjourned to 2 o'clock P.M.

AFTERNOON SESSION.

Dr. Noble, temporary Chairman, called the Society to order at 2 o'clock P.M.

The Committee on Nominations made the following report, which was accepted, and the officers named unanimously elected:

OFFICERS.

For President.—Dr. A. McFarland, of Jacksonville.

For Vice-Presidents.—Dr. A. H. Luce, of Bloomington; Dr. A. Frazer, of Howard's Point.

For Treasurer.—Dr. J. H. Hollister, of Chicago.

Committee on Practical Medicine.—Dr. N. S. Davis, of Chicago; Dr. T. D. Washburn, of Hillsboro; Dr. C. R. Park, of Bloomington.

Committee on Drugs and Medicines.—Dr. F. K. Bailey, of Joliet; R. G. Laughlin, of Hayworth; F. R. Paine, of Marshall.

Committee on Obstetrics.—Dr. DeLaskie Miller, Chicago; Dr. J. M. Steele, Grandview; Dr. A. H. Luce, Bloomington.

Committee on Surgery.—Dr. E. Andrews, Chicago; Dr. S. W. Noble, LeRoy; Dr. F. B. Haller, Vandalia.

The Chairman appointed Drs. Steele, Luce, and Hollister, a committee to conduct the officers elect to their places.

Dr. E. Andrews, from the Committee on Surgery, read an abstract of his report, which was accepted and the report referred to the Committee of Publication.

Dr. D. Prince read a very interesting paper on "Delayed

Union of Fractures of the Bones." Also, remarks on amputations, etc., comparing the advantages of circular and flap operations, especially in military surgery. Remarks in reference to certain points in the paper, were made by Drs. E. Andrews, and J. H. Hollister.

Adjourned to the Blind Asylum, and to evening session at 7½ o'clock.

EVENING SESSION.

Society was called to order by the temporary Chairman, at 7½ o'clock P.M. Dr. A. McFarland, the President elect of the Society, was conducted to the chair by the committee. On taking his official position, Dr. McFarland accepted the office in a brief but very appropriate address, welcoming the members cordially to the hospitalities of the city of Jacksonville.

The paper read by Dr. D. Prince being under consideration, it was further discussed by Dr. Andrews, particularly in reference to the comparative value of resections and amputations of the shoulder and elbow, showing by statistics, that resections of these joints was attended by less mortality than the amputations. Resections of the femur uniformly fatal. Resections of the knee-joint yet doubtful in its results. Dr. Prince continued the discussion in explanation of the causes which render resections of the shoulder and elbow more safe than amputation. It was because such resections caused less wounding of the soft areolar tissues than amputations would. But in most cases of wounds of the knee-joint, the resections must cause more injury of that class of tissues than amputation of the thigh a little above.

On motion of Dr. Hollister, the paper of Dr. Prince was accepted and referred to the Committee of Publication.

The Society was invited to hold its next meeting at Chicago and also at Quincy.

Dr. E. L. Holmes read an interesting report on Diseases of the Eye, relating particularly to the cases of catarrhal ophthalmia. Dry air, severe winds, dust in the atmosphere, and contagion were mentioned as the causes of chief importance. Sympathetic ophthalmia, or that which is induced in one eye

by severe injury previously to the other eye, is of the most dangerous and persistent character. Recommended early extirpation of the injured eye as a preventive. Also related three cases in which chloroform produced unpleasant effects, but no deaths. Glaucoma was commented on somewhat in detail.

On motion of Dr. H. Noble, the report was accepted, and, after a brief discussion by Dr. B. Wilson, Dr. J. M. Steele, Dr. Prince, Dr. Haller, and Dr. Frazer, it was referred to the Committee of Publication.

Dr. N. S. Davis, in behalf of the Publishing Committee, submitted the following report, viz.:

REPORT OF THE COMMITTEE OF PUBLICATION, 1861.

As soon as the papers read at the meeting of the Society in May, 1860, could be collected, the *Transactions* were put to press. Owing to the unusual length of the report on Surgery, it was evident that if the whole expense of publication was incurred by the Committee, it would much exceed the amount of funds in the hands of the Treasurer of the Society. To avoid this result as far as possible, the undersigned caused a large part of the matter contained in the *Transactions* to be first published in the *Chicago Medical Examiner*, by which, the expense of setting the type was saved to the Society. Notwithstanding every effort, however, to reduce the cost of publication of the *Transactions*, the sum exceeded the amount in the treasury, as shown in the Treasurer's Report.

The number of copies published was 300, containing 226 pages each, at a cost of $192.00. Sixty copies have been distributed to such members as were entitled to the same by the payment of their annual assessment, twenty copies have been sent to medical journals and other State medical societies, and thirty copies were brought here for the use of members at this meeting, leaving in possession of the Society about 175 copies for further use. At the meeting in 1860, the Secretary was requested to have a revised copy of the Constitution and By-Laws re-published with the *Transactions;* but owing to the insufficiency of the funds they were omitted. As the previously

published copies are nearly exhausted, it is suggested that they be published with the *Transactions* of the present meeting. The present indebtedness of the Society for printing, as shown by the Treasurer's Report, is $70.50. The Secretary has advanced $4.69 in prepaying postage on copies of *Transactions* already distributed, and which he freely donates to the Society. In notifying the present meeting, care was also taken to send notices to each individual member whose name was in the preceeding volume of *Transactions*, and to all members of committees. All of which is respectfully submitted in behalf of the Publishing Committee by

N. S. DAVIS, *Permanent Sec'y.*

May 5th, 1863.

On motion of Dr. J. M. Steele, the report was accepted and approved, and the thanks of the Society tendered to the Secretary for the judicious manner in which he had discharged the duties of the Publishing Committee.

Drs. C. A. Fisher and C. H. Knight, of Jacksonville, were proposed for permanent membership, by Dr. D. Prince, and unanimously elected. Dr. M. T. DeWitt, of Whitehall, was also proposed by Dr. D. Prince, and unanimously elected. Dr. G. W. Albin, of Neoga, was proposed by F. B. Haller, and elected unanimously.

On motion the Society adjourned until 8 o'clock in the morning.

SECOND DAY.—MORNING SESSION.

The President in the chair called the meeting to order at 8½ o'clock A.M. Secretary read the minutes of yesterday, which were accepted and approved. Committee on nominations made the following report, which was accepted and adopted:—

The Committee on Nominations report the assessment for this year to be two dollars for each member. For place of next meeting, Chicago; for time, the first Tuesday in May. For Committee of Arrangements, Drs. M. O. Heydock, Thomas Bevan, E. L. Holmes, Chas. G. Smith, S. Wickersham, J. W. Freer, J. H. Hollister. For Assistant Sec., H. W. Jones.

The following additional gentlemen were proposed as permanent members, by Dr. D. Prince, and unanimously elected, viz.: C. M. Robertson, of Tallula, Menard county, and Hiram R. Jones, of Jacksonville.

Dr. D. Prince was appointed a special committee to report, at the next annual meeting, on Orthopædic Surgery.

Dr. N. S. Davis offered the following resolutions, which were unanimously adopted:—

Resolved, That in compliance with the invitation of the Faculty of the Chicago Medical College, and Medical Department of the Lind University, the President of this Society shall appoint a board of three Censors, to attend the examination of candidates for graduation at the public annual commencements in that institution, and to participate in such examinations by questions and votes.

Resolved, That the Society publish, in the preface and title page of the next volume of *Transactions*, an explanation of the omission of two years in the meetings and doings of the Society.

Dr. H. Noble read an interesting paper on the Nature and Treatment of Typhoid Fever, which was accepted and discussed by Dr. D. Prince, who stated that in the Army of Virginia, quinine was never found beneficial, and was sometimes injurious in true typhoid fever.

The reading of Dr. Noble's report was followed by a very interesting discussion on the treatment of typhoid fever, which was participated in by Drs. Prince, Davis, Steele, Andrews, and Noble, at the close of which, the report was referred to the Committee of Publication.

On motion of Dr. Davis, the Society proceeded to the election of fifteen delegates, to represent it in the approaching meeting of the American Medical Association. The following named gentlemen were duly elected, viz.:—

M. Shepherd, of Payson; J. M. Steele, of Grandview; F. B. Haller, of Vandalia; David Prince, of Jacksonville; H. Noble, of Heyworth; Lucius Clark, of Rockford; A. H. Luce, of Bloomington; John Tenbrook, of Paris; M. F. Dewitt of

Whitehall; F. R. Payne, of Marshall; L. L. Todd, of Paris; N. Wright, of Chatham; S. W. Noble, of LeRoy; Samuel Thompson, of Albion; A. J. Crane, of Decatur.

Dr. Hollister offered the following resolution which was unanimously adopted:—

Resolved, that we tender to those of our members serving as medical officers in the Army, and now absent in the field, assurances of our kind remembrance of their humane labors and personal sacrifices; that we congratulate them upon their being able to contribute services so valuable to a cause so *noble*, and that we join with them in earnest desires, and personal efforts if need be, for the early restoration of *peace* and the integrity of the *entire* Union.

Dr. M. Shepherd proposed the following resolution, which was adopted:—

Resolved, that Prof. Davis, if not incompatible with his other duties, be requested by this meeting to write an essay upon the Deleterious Effects of the use of Tobacco upon the Human System, and especially upon the example and bad taste of the members of our profession who habitually use it.

At half-past twelve o'clock, the Society adjourned to the Hospital for the Insane, where they were cordially received by the superintendent, Dr. A. McFarland, and his assistant, Dr. Tenny. The superintendent briefly explained the rules for the admission of patients, the system of management adopted in in every department, the number of patients at present in the institution, and the whole number received since it was established. The company then sat down to an excellent dinner, after which, they were conducted through all the wards for patients, and all the departments of husbandry connected with the out-door management of the extensive grounds connected with the hospital. Everything, within and without, was found to exhibit the most perfect order and the highest degree of good taste and skill on the part of the superintendent. After completing the examination of the premises, the party assembled in the reception-room, and were called to order by Dr. A. H. Luce, Vice-President. Dr. McFarland read a very interesting paper

on "Minor Mental Maladies," which was received and referred to the Committee of Publication, and a vote of thanks tendered to the author.

At four o'clock P.M., the members of the Society again took the omnibuses and proceeded to the Institution for the education of the deaf and dumb. Here, as in other public institutions, they were cordially welcomed and conducted through the building, the work-shops, and all places of interest, after which, they assembled in the chapel-room and witnessed some intensely interesting exercises, showing the progress of the pupils and the modes of their instruction. The Society then adjourned to meet at 7½ o'clock P.M., in the Dunlop House.

EVENING SESSION.

Dr. A. H. Luce, Vice-President, called the Society to order at 7½ o'clock P.M.,

Dr. James Leighton, of Manchester, Ill., was proposed for permanent member by Dr. Prince, and unanimously elected.

The following resolutions were read by the Secretary and adopted by unanimous vote:—

Resolved, that the members of this Society have been highly pleased with their visit to the Illinois Institution for the education of the blind. The proficiency of the pupils in their studies, their excellent sanitary condition, and the neatness and order exhibited in every department, from the kitchen to the dormitories, reflect the highest credit on the superintendent, matron, and teachers.

Resolved, that the thanks of the Society are hereby tendered to the superintendent and matron, Mr. and Mrs. Rhodes, for the kind hospitalities extended to its members.

Resolved, that the thanks of the Society are hereby tendered to the Committee of Arrangements, for the excellent accommodations and arrangements for our enjoyment and profit at the present meeting.

Resolved, that our visit to the Hospital for the Insane has been exceedingly pleasant and satisfactory in all respects, and that we tender to the accomplished superintendent and his assistant our thanks for their kind hospitality.

Resolved, that the examination of the institution for the education of the deaf and dumb, and the exercises of the pupils, has been most gratifying to all of us; and we cordially thank the officers and teachers for their kindness, and commend them in the prosecution of their arduous and noble work.

Resolved, that the thanks of the Illinois State Medical Society be extended to the 2d Presbyterian Church of Jacksonville, for the use of its church edifice; and that the Secretary be instructed to furnish a copy of this resolution to its Board of Trustees.

On motion, Dr. A. McFarland was appointed a delegate to represent this Society in the next annual meeting of the New Hampshire State Medical Society.

Dr. N. S. Davis made a verbal communication to the Society on the condition of the blood in malignant typhus, scarlatina, variola, and erysipelas, and related several cases of the latter disease, in the treatment of which the *sulphite of lime* was given in doses of one drachm every two or three hours with apparent benefit. After a brief discussion, Dr. Davis was requested to furnish the substance of his remarks for publication in the *Transactions* of the Society.

At 9 o'clock P.M., the Society adjourned until the first Tuesday in May, 1864.

N. S. DAVIS, *Secretary.*

Illinois State Medical Society.—We publish, in the present number, a full record of the proceedings of the recent meeting of the State Medical Society, at Jacksonville. It was one of the most pleasant and profitable meetings that have been held since the organization of the Society. The communications made to the Society were not numerous but well prepared, and of much practical value. The topics embraced were discussed with more freedom and interest than usual. The visits to the several public institutions were gratifying to every member present. Much credit is due to the Committee of Arrangements for the judicious management of the meeting.

Explanation.—The reader will readily perceive that the present number of the *Examiner* is increased in size, and thereby made to include both the months of March and April. We shall issue another double number in June, and thereby bring the future monthly issues to their proper date, where we shall endeavor to keep them hereafter. We have several valuable papers for the original department of the number for May and June. It will also contain a full account of the proceedings of the American Medical Association during its coming session in this city.

Characteristic.—The editors of the *Chicago Medical Journal*, Drs. Brainard and Allen, are still doing all they can to discourage attendance on the meeting of the American Medical Association, and misrepresent the action of the Committee of Arrangements. All their efforts, however, will be unavailing. The meeting will be largely attended, well provided for, and equal in interest and importance to any that have preceded it.

CALOMEL AND TARTAR EMETIC IN THE ARMY.

We clip the following singular order, recently issued by the Surgeon-General of the United States Army, from a daily paper; the editor of which, very pertinently asks, whether, instead of excluding two important articles of the *Materia Medica*, it would not have been better to have dismissed those Surgeons and Assistant-Surgeons who did not know enough to use the remedies judiciously?

Surgeon General's Office,
Washington, D. C., *May* 4, 1863.

1. From the reports of medical inspectors, and the sanitary reports to this office, it appears that the administration of calomel has so frequently been pushed to excess by military surgeons as to call for prompt steps by this office to correct this abuse; an abuse the melancholy effects of which, as officially reported, have exhibited themselves not only in innumerable cases of profuse salivation, but in the not infrequent occurrence of mercurial gangrene.

It seeming impossible in other manner to properly restrict

the use of this powerful agent, it is directed that it be struck from the supply-table, and that no further requisions for this medicine be approved by medical directors. This is done with the more confidence, as modern pathology has proved the impropriety of the use of mercury in very many of those diseases in which it was formaly unfailingly administered.

2. The records of this office having conclusively proved that diseases prevalent in the army may be treated as efficiently without tartar emetic as therewith, and the fact of its remaining upon the supply-table being a tacit invitation to its use, tartar emetic is also struck from the supply-table of the army.

No doubt can exist that more harm has resulted from the misuse of both these agents in the treatment of disease, than benefit from their proper administration.

W. A. Hammond, Surgeon-General.

Cure of Bright's Disease by a Milk Diet.—A writer in the *Bulletin de Therapeutique* for March, over the signature of F., in an article on this subject, contends that the disorganization of the kidneys known by this name is a secondary affection, dependent upon the albuminuria and caused by it. The primitive disease, he contends, is in the blood itself, and consists in a modification of the qualities of the albumen of the serum, at present not understood, by which it passes through the pores of the vessels. Some plausibility would seem to be given to this theory by the known efficacy of astringents, such as the salts of iron, tannin, &c., in many cases. The writer argues that if the condition of the blood can be changed the disease of the kidneys will be cured. To effect this he strongly recommends a milk diet. From the article, which is too long for us to give entire, we translate the following extract:

We know that the use of milk as an exclusive diet is a very old remedy for dropsy, whatever may be its cause. Horstius, Hilden, Bontius, Mauriceau, &c., have successively vaunted the efficacy of this treatment, which, like so many other good things in popular use, was neglected until 1831, when M. Chrestien, of Montpellier, brought this remedy to honored notice, and proved that it would be often successful when all other means failed.—M. Serres, d'Alais, Claudot, Ossieur, Dieudonne, &c., have since arrived at conclusions entirely confirmatory of those reported by Chrestien, and the *Bulletin de Therapeutique* has not failed to report with all fidelity all the facts which have been brought forward in favor of this remedy. The articles referred to regarded ascites or anasarca only in a general manner, and

as a condition, independently of the cause which produced it; and although we must admit that in these results the dropsy of albuminuria may claim a certain number of cases, it had never been studied in a special manner with reference to a milk diet, up to the time of the very remarkable article of M. Guignier, Member of the Faculty of Montpellier, published in the *Bulletin de Therapeutique*, vol. liii., p. 337, and that published by M. Artigues in the *Jour. de Med. et Chirurgie Militaria*. M. Guignier applied himself with commendable assiduity to the specification of the cases in which the method of Chrestian was indicated or the reverse. He believed it useful when there exists a condition of plethora, hurtful, on the contrary, when the dropsies are of a passive character, as the patients are too debilitated for it. It would be difficult for us to judge of the value of these distinctions and the possibility of defining them in the greater number of cases; and we can very readily believe that if the dropsies of plethora are best adapted to a milk diet, it is only because they are attacked at an earlier stage, and that the constitution of the patient offers then more resources. M. Guignier furthermore does not give the first place to the method of Chrestien, but to that of M. Serres, d'Alais, based as we know on the combination of these three methods: 1st, the diminution of the amount of fluid drank; 2d, a milk diet; 3d, the use of raw onions. He lays down his treatment as follows: to chose the milk with special care as regards its freshness and quality, to change it for a supply from another source when the first fails to agree with the patient; to allow it to be taken *ad libitum* (this practice differs from that of M. Serres); to combine chalk or magnesia with it when it excites acidity; to give up this treatment at the end of twenty days when it fails to produce a marked improvement. M. Guignier, without attaching much importance to the use of raw onions, nevertheless thinks that their diuretic property is useful, and that when the stomach tolerates them they should make a part of this milk regimen.

The facts offered by M. Guignier were of much weight in favor of a milk diet, and while accepting them with some reserve, in view of the possibility when once the dropsy is absorbed of seeing the albuminuria which produced it still remain, yet the impression could not be resisted that milk affords a means of treatment of the greatest value in albuminuria. The observations published by M. Artigues, physician-in-chief of the army, furnish evidence even more decisive in favor of this regimen.—He cites, in fact, two cases of complete recovery, without any

return of symptoms for three years. Mr. Serres's method was that followed by M. Artigues without any variation; it is that also which ought, in our opinion, to be followed in the treatment of Bright's disease: it combines, in effect, the advantages of a dry and a milk diet.

Shall we not be able, by this purely dietetic treatment, to cure radically these formidable affections? We do not doubt it, if the treatment is employed in good season, when the effusion is recent and the albuminuria has not existed long enough to have produced in the kidneys the organic lesions which are evidently beyond our resources. But even in this case, where our art is reduced to a deplorable helplessness, the following a strict regimen, of a dry and vegetable diet, but above all a milk diet, will give more favorable results than any medication known as yet. We have, therefore, felt it our duty to call attention to these means, which, besides, are recommended by their perfect harmlessness.—*Boston Medical and Surgical Journal.*

Death of Dr. Charles Hooker.—It is with regret that we announce the death of the distinguished physician, Dr. Charles Hooker, of New Haven, on the 19th of March, at the age of 64. The deceased had been a supporter of our *Journal* almost from its beginning, and in past years communicated many valuable articles for our pages. From an obituary in the *New Haven Daily Palladium*, we make the following extract:—

"Dr. Hooker was born in Berlin, in this State, a deseendent of that eminent and gifted man who was the leader of the first settlers of Hartford, the Rev. Thomas Hooker. He graduated with honor in Yale College, in 1820, in the class of which President Woolsey and Dr. Bacon were members. On graduating, as he afterwards did from the Medical Institution of the College, he began practice in this city, and from that time to this he has been known as one of the busiest and most indefatigable men in this community. In 1838 he was appointed to the chair of Anatomy and Physiology, and the numerous graduates of the Medical School can testify to his great skill and energy as a teacher.

"The character of Dr. Hooker was not a common one. An independent thinker, his energy prompted him to press his views upon the minds of others, and he therefore made a decided impression upon the principles and practice of his brethren in the profession. No man ever showed more earnestness and assiduity in his calling, and these were just as manifest in his last days, when most men incline to some relaxation of their

labors, as they were when the ardor of his youth was upon him. Faithful and energetic to the last, he exposed himself freely to cold and fatigue, in behalf of some patients in whom he felt a deep interest, even after his sickness had fairly begun, and so he may be said to have died in the very midst of his labors. What we deem to be the grand fact of his professional life, standing out prominent before all others, and written in deep lines upon the hearts of multitudes in this community, is, that he performed his labors for the sick irrespective of reward; for he was just as ready to obey the calls of the poor as those of the rich. The genial and ardent social qualities of Dr. Hooker added much to his influence, and therefore his usefulness as a physician. We may add to this brief notice the fact that he was a member, for we know not how many years, of St. Paul's Church, and none will more deeply feel his loss than the pastor and members of that church."—*Boston Medical and Surgical Journal.*

Death of Dr. Charles Fishback.—It is with deep and sincere sorrow that we announce the death of Dr. Fishback, of Indianapolis. We had hoped to receive a full obituary notice from some of our Indiana friends, but have been disappointed. His death was from a dissecting wound, received, as we understand, in making a *post mortem* examination of a puerperal fever case, but have no definite particulars.

The death of Dr. Fishback is a loss to the profession of Indiana. He was high-toned in all his opinions and practice, one of the most active and zealous members of the State Society, an ardent worker for the elevation, educationally, of his profession, and, above and beyond all, a sincere Christian gentleman.—*Cincinnati Lancet and Observer.*

Obituary Record.—Died, at his country-seat, at Fordham, Feb. 14, of pleuro-pneumonia, Geo. P. Cammon, M.D., aged 59 years. Dr. C. held a very high position in the estimation of his brethren in New York, and was considered as among the most advanced and accurate students of pulmonary and cardiac diseases in our country. Though possessed of great wealth, he was most punctual and faithful in his attendance at the New York Dispensaries to which he was attached. Owing to his aversion to publicity, he has published but little, and seldom mingled in professional circles; but he was universally respected, and regarded as a bright ornament of the profession.—*Medical News and Library.*

Resignation of Prof. H. H. Childs.—At a meeting of the Trustees of the Berkshire Medical College, held last Thursday, Hon. Henry H. Childs, the President of the Institution, as well as its founder and father, resigned the Professorship of "Obstetrics and the Diseases of Women and Children," which he has held so many years. Dr. Childs' advanced age rendered it necessary that he should seek some relief—although a hale and hearty old age is his, which we trust will enable him to hold for years the Presidency of the College, which he still retains. In accepting the resignation the Board adopted unanimously the following resolutions:

Resolved, That the resignation of Dr. Childs requires from us more than a passing notice. For nearly forty years he has been the active head of the Berkshire Medical College—his usefulness having extended to a period almost unprecedented. During these years, by his energy, zeal, and enthusiasm, he has achieved a wide-spread reputation as a medical man, and by his kindness of heart, and courtesy of manner, a no less deserved name as a Christian gentleman. He has ever maintained a high standard of medical honor, and his pupils must forget or ignore his teachings before they could stoop to anything ignoble or ungenerous. With a quick appreciation of merit, however modest, and ever ready with the kindly word of needed encouragement, his pupils learned to love him, and thousands, through the length and breadth of our land, affectionately look back to him as a kindly foster-father.

While we regret the infirmities which compel the retirement of our venerable President, as an active instructor, we earnestly hope that his interest in the institution, which is so identified with his life and name, may not abate, and that he may long be spared to speak words of cheer to the new generation of students, and to give the benefit of his advice and counsel to the Faculty and Trustees.—*Buffalo Medical and Surgical Journal.*

Washington City, the National Capital, is undoubtedly in the most insanitary condition of any city in the United States. The principal sources of uncleanliness are thus given by Dr. Henry G. Clark, of the Sanitary Commission, in a letter to the military authorities, recommending the adoption of appropriate measures:—

"1st. The accumulation of large numbers of men and animals in confined locations. 2d. The accumulations of filth, such as vegetable and animal offal, consequent on the above. 3d. The entire neglect of cleansing operations in the yards, lanes, and

streets of the city, especially the very deficient drainage. 4th. The nuisance of a shallow, and neglected, and filthy canal in the heart of the city, a receptacle of the sewers, and a place of deposit for dead horses, etc. 5th. The marshy and stagnant water in many vacant lots, some of them—as in North Capitol street—near large hospitals, the want of drainage of which has rendered many parts of the city, as that near the President's House, malarious spots, producing intermittent and remittent fevers, jaundice, etc. 6th. The accumulation of the sick in large numbers is a very powerful means, unless proper sanitary measures are taken, of intensifying all the ordinary and extraordinary causes of disease."

The recommendations of Dr. Clark embrace a rigid system of sanitary police, which the nation is interested in seeing enforced.—*Medical Times.*

Sulphate of Morphia administered through the Ear.—Dr. W. H. Traver, of Providence, R. I., writes as follows:

Mrs. C., a lady of nervous and excitable temperament was awakened from a sound sleep by a severe neuralgic pain in her right ear.

After looking in vain for a vial containing tincture of opium, some of which she had used in her ear on a former occasion, she found a powder of sulphate of morphia, (one-fourth grain) which her husband in compliance with her request put in her ear.

The pain stopped and she soon became much surprised and not a little alarmed to find herself under the influence of the drug, which, however, passed off in due time without any inconvenience.—*Medical and Surgical Reporter.*

How they Live in New York.—The New York *Sun* says, that there are in that city 12,347 tenement houses, containing a total population of 401,376 persons—an average of about 33½ to each house. Of this number—a good sized town of itself—22,095 live in cellars, some of them scarcely fit for brutes.—The ventilation in about one-third of these houses is bad, and of course so far injurious to health. In case of fire, &c., 8546 houses, containing a population of 253,901 souls are provided with good means of escape, while 3801 houses, with a population of 125,280, are deficient in this respect.—*Medical and Surgical Reporter.*

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Original Contributions.

ARTICLE XIII.

PHYSIOLOGICAL INCOMPATIBILITY OF THE RESPECTIVE SEXES OF OUR SPECIES.*

BY W. BYRD POWELL, M.D., Covington, Ky.

MESSRS EDITORS:—Having made, as I believe, and as the editor of the *Scalpel* for January, '59, said, "the most important discovery ever made in physiological science;" and having reduced it to a highly practical simplicity, and being anxious that the sons and daughters of my country shall have the benefit of it as soon as may be practicable, I send for your *Journal* a brief exposition of it. As the history of a discovery, generally, furnishes the evidence, at least, of its probability, I will, therefore, make the history of this discovery my introduction.

In October, 1844, I was travelling in the State of Mississippi, and was taken sick on the road, so sick as to deem it prudent that I should seek some halting-place where I could be properly cared for, and, presently, I arrived at a small village, and drove to the door of a dry goods store and called for the proprietor. He appeared at the door, I informed him of my condition and desire to find a place where I could be properly cared for. He

* I do not mean by species the whole race, but a portion of it only.

responded, we have in this little community one of the best families known to this or, probably, any other country, and if they will receive you, and I think they will, you will not want for anything that an enlightened goodness can command. He indicated the house, I drove to it, and, luckily, I was received, for at a glance I perceived that the representation of the merchant was correct,—for the entire premises indicated the abode of plenty, comfort, and happiness. The host and hostess were in harmony with the surroundings; in personal health, development, and social kindness they were model representations of humanity. With all this, I did not feel entirely at ease. I saw no children, for I imagined their children, if any, to be miniature models of humanity. At length I ventured to ask the lady, if she had any children? She responded affirmatively, and added, "they are at school." In the evening, three little boys came in; and never have I been so much disappointed as I was at the sight of these children.

They were, respectively, afflicted with tabes mesenterica, in an advanced stage, and hence they were disgusting objects. The mother, I think, must have perceived my disappointment, and hence remarked: "my first three children are dead." Of what disease did they die? I inquired. She answered: "the first died of consumption of the lungs, and the other two of the bowels." As the parents had every indication of having a sound constitution and excellent health, and from the excellence of their residence and plentifulness on their table, I felt fully assured that their children had not been stinted in food, or exposed habitually, at any time, to a cold and humid atmosphere; and further, the country was exceedingly healthy, and believing at that time, as every body else did, that the consanguine relation of progenitors is mischievous to progeny, I asked the lady if she and her husband were cousins? She answered, "no, sir; there is no blood relation between us, and further, consumption was never known to have obtained in either his family or mine, and hence we are greatly surprised that our children should die of it." This case greatly puzzled me, and hence, during my sojourn with this family, I investigated every thing

and circumstance that could apparently hold any relation to them, but finding no apparently possible cause for the scrofula of their children, I was forced to the suspicion that it resulted from some physiological condition in the progenitors which was yet to be discovered, and I believed that it could be discovered by a sufficiently extensive observation of parents and children, and I resolved to make an effort to discover it; consequently I made a memorandum of all the obvious facts which this case furnished, including the temperaments of the parents, respectively. But I did not suspect that they had anything to do with it, because I regarded them as normal conditions, but I noted them simply as a circumstance, and because to do so would help my memory, for at this time, and for the eighteen previous years, the temperaments had, with me, in a great measure, been a specialty, and probably I was more practically familiar with them than any other individual ever was.

The parties were, respectively, of the *sanguine*, *bilious*, *lymphatic* temperament; and, to the extent of my ability to judge, I never saw a more physiological couple.

The weather being fine and my health restored, I started on my journey. About one o'clock I halted at an inn on the road side, for dinner. The host was a fine and soundly looking representative of the bilious encephalic temperament, and the hostess was the same,—a superior woman. I asked the host, if he had children? He answered: "I have." I informed him that I was making observations on parents and children, and would therefore be pleased to see his. He responded: "certainly, sir," and led the way to the nursery. Upon entering it, I saw two children; one was rachitic and the other imbecile. On leaving the nursery, he remarked: "our first child died of brain fever." From the condition of the two I saw, I suspected that the brain fever of the first was of the scrofulous variety. Upon returning to the parlor, I found the mother weeping over her maternal disappointments, and I sympathized deeply with her, because she was sufficiently endowed to have been the mother of statesmen. These parties assured me that there was no consanguinity between them, and that scrofula, in

no form, had ever, as they thought, been in the ancestry of either of them. Their circumstances indicated a comfortable independence, and, like the preceding family, they were sound, healthy, and lived in a healthy country.

Having dispatched a good dinner, I continued my journey, with my mind thoroughly perplexed. I meditated myself into fever and cephalagia, and hence, at an earlier hour than usual, arriving at an inn, I halted for the night. At my arrival the host appeared. His temperament was sanguine, bilious, which I regarded as being the most dense and enduring known to the species. The evening being pleasant, I seated myself on the piazza, and presently the hostess and seven children appeared, for my entertainment, possibly. Her constitution was bilious lymphatic; all the children had a sound, viable appearance, and the mother informed me that she had lost none. I found nothing here that appeared likely to aid in relieving my perplexity. My observation here, however, was not unprofitable. For it showed that for the production of a sound and viable progeny, that both progenitors need not have, in the abstract, the best constitution, for I did not think very favorably of her constitution, it was too watery. I now inquired of the hostess if she knew of any family who had been very unfortunate with their children. She answered: "I do. There lives a family ten miles distant from here, on the road you are traveling. They keep private entertainment, and you can easily reach there for breakfast, and you will get a good one." Although I obtained nothing in this family that promised to be of any avail, nevertheless, I made a note of it, as I intended to do of every family I saw, for otherwise I could not arrive at a profitable generalization.

Next morning I drove ten miles for breakfast. The host and hostess were, respectively, sanguine encephalic, had had seven children, and they, respectively, died at about the age of two years, some of them with hydrocephalous and the others of brain fever,—tubercular meningitis, I suppose, because I now know that the children of such parents very generally die with the two forms of disease above-named. These parties were not consanguine, nor had they any suspicion of the cause of their

misfortune. The subject now began to appear to me more inscrutable, and my suspicion of the cause being physiological was increasing, which made me more resolved to pursue the inquiry. These were interesting people, and hence, I more than usually enjoyed my breakfast with them. I was soon on the road again. I continued my drive till one o'clock, when I halted for dinner. The host was a strongly marked representative of the *bilious* temperament, and his wife was an equally well-marked representative of the *sanguine*, *bilious*, *lymphatic* temperament. They had three sound, healthy, and promising boys, had lost no children. Dinner being dispatched, I was again on the road and drove till dark; but, finding no hotel, I claimed the hospitality of a planter, and it was cheerfully granted. He was a splendid representation of the *sanguine*, *bilious*, *lymphatic* temperament, and his wife was an equally fine representation of the *sanguine*, *bilious*, *encephalic* temperament, and a lady. I had a very pleasant evening with them. They had had six children, but all were dead; some died of tabes mesenterica, one of phthisis, some of brain fever, and the youngest, an infant, of croup. Between these parties there was no consanguinity, both claimed to be sound and healthy, and so they appeared to be. They seemed confident that no scrofulous form of disease had been in their respective ancestors. They had no suspicion of the cause of their loss.

On the next morning I made a tolerably early start, and drove ten miles for breakfast; and found the host and hostess to be more than usually intellectual and interesting, with, apparently, sound constitutions and good health. They were, respectively, fine illustrations of the *bilious encephalic* temperament, had been married a little more than twenty years, but were still childless; and between them there was no consanguinity. Every thing about this house conspired to fit me for the road,—the day was pleasant and beautiful and the road good; and, hence, almost as soon as I was again on the road I, spontaneously, began to meditate on the observations I had made, and noted the number, and found it to be seven. Indeed, in memory, I re-travelled the road and visited each family; and, by generalizing them, I saw

that the seven families, that is, the parties to them, possessed similarly good constitutions and health, that they lived similarly well, and in a similarly healthy country, and, further, there was no consanguinity between the parties, respectively.

This review shed no light on my difficulty. I now reviewed and generalized their temperaments,—a matter to which, at first, I attached but little importance. I found between the third and fifth parties, respectively, a very considerable dissimilitude of constitution, and that their children, respectively, were healthy, and of viable promise. But between the first, second, fourth, sixth, and seventh parties, respectively, there was a very close similitude of constitution; and, with reference to progeny, they had all been unfortunate.

Indeed, the first, second, fourth, and seventh parties respectively were the same. The parties to the sixth differed nominally a little, but reproductively or vitally they were the same, for, several years before this event, I had concluded that the lymphatic and encephalic temperaments were equivalent in relation to the vital functions. Hence, so far as the generalization of seven cases could warrant an inference, it must be that physiological similitude between the respective sexes of our species renders them incompatible in relation to the procreative functions; but for several years I did not allow this inference to have any other effect on me than that of a suggestion, but more than eighteen years of subsequent observation has confirmed that inference as being the most important truth ever announced in physiological science. This discovery has revealed to me the remote cause of the scrofulous diathesis of the long charged *opprobrium medicorum*. Thus, in two days and a fraction after resolving to make an important discovery in the most occult department of anthropology, I succeeded.

The human temperaments were introduced to the attention of the medical profession more than two thousand years ago, and how it has happened that the fact of the very frequent existence of a physiological incompatibility between the most physiologically sound and healthy parties of the respective sexes, was not discovered many centuries since, is a question which I can-

not solve, without assuming that the profession has not given them that attention they merit, and this I believe to be the fact. For who is, or has been, the physiologist who could authenticate even the simple temperaments, and much less their compounds, by an inspection of denuded crania? If such an one ever lived, I have not become informed of it, and yet this is so possible that every physiological professor should be capable of it.

Since making this discovery, I have consulted every authority I have been able to command, to ascertain whether I had been anticipated; but have not found the most remote intimation that a physiological incompatibility ever obtains between the sexes of any zoological species, with the exception of one recent writer, Dr. T. L. Nichols, who, in a small volume entitled *Eroteric Anthropology*, published in New York in '53, between eight and nine years subsequently to the date of my discovery. He announces it to be a fact, that a physiological incompatibility does obtain, occasionally, between the respective sexes of our species, and denominates it "physiological incest." He thus very clearly indicates the character of this incompatibility. He does not, however, indicate the conditions that conspire to produce it, nor the indices of the fact when it does obtain. His statement may therefore be nothing more than the expression of an hypothesis, which appears to be instinctively founded in the popular mind.

But however this may be, before the date of his publication by several years, I had not only discovered the fact, but also the conditions that produce it, and also its indices; and consequently, at the sight of incompatible parties of the respective sexes, whether married or single, I was able to announce the fact, and, in many cases, the consequences, with a scientific certainty.

The existence of a physiological incompatibility between the respective sexes of our species, has, virtually, been conceded to obtain, possibly for centuries, between consanguine parties; but this, I am confident, is either an error or a prejudice. I admit, however, that consanguine parties are occasionally un-

fortunate as progenitors, but the cause is not consanguinity, but that which frequently obtains with other parties. Of the seven marriages I observed in making this discovery, two of them only, as I now know, were physiological; and I think it highly probable that not more than two-sevenths of our marriages, generally, are compatible or physiological; and as the consequences of incompatible marriages are sterility, scrofulously constituted children, imbecile, blind, and deaf children; we have plainly the source of our many sterile marriages, scrofulous forms of disease, asylums for imbecile, blind, and deaf children.

The fundamental fact of sexual incompatibility in our species is, physiological similitude, and it attains in the union by marriage of certain of those conditions which are denominated the human temperaments: consequently, for the purpose of being clearly understood, it becomes indispensable that I should treat, to some extent, of the temperaments.

By temperament, I mean a *sui-generis* mode of human life, compatible with health and longevity. With an essential modification, I adopt the Hippocratic system, which comprises four conditions, and which have been assumed to be elementary, viz.: *the sanguine, the bilious, the lymphatic, and the melancholic.* But having, in common with other physiologists, concluded that the last is a condition that has not and never had a physiological existence, I discarded it. I never doubted, however, that Hippocrates did observe a fourth condition; and observation has forced upon me the conviction, that humanity comprises four conditions; and this conclusion is rendered certain by the fact, that the other three do not constitute a system, and, therefore, do not furnish the elements of the compound conditions which numerously obtain in all communities. The truly fourth temperament I claim to have discovered in 1832; and this so thoroughly perfects the system, that neither myself nor pupils have any difficulty in distinguishing the combinations. I do it readily with denuded crania. I am now entirely confident that the ancients approximated the discovery of this temperament, that their melancholic was a compound of the bilious with the one I discovered, with, probably, a pathological condition of the portal system.

The one I discovered I denominated the Encephalic temperament; and as your readers have not, probably, seen the work entitled, "The Natural History of the Human Temperaments," by the writer, it is proper that I should indicate the principal indices of the encephalic temperament:—Like the lymphatic, physiologists to the contrary notwithstanding, the encephalic has no diagnostic or distinguishing complexion, it may be either fair or dark. In this temperament the cerebrum, in relation to the cerebellum, is large, and, of course, the cerebellum, in the same relation, is small, and, consequently, all the vital functions, except absorption, are feebly and tardily manifested; the thorax and abdomen are small and contracted; the muscles are slender, feeble, and flaccid; the locomotion is dragging; the neck is long and slender; the anterior lobes of the cerebrum are massive, prominent, and superiorly expanded. People of this class are capable of profound thought and motion, but not of powerful, and are greatly liable to monomania.

I think it probable that no amount of observation my readers can command would enable them to see a strongly defined representative of this class, especially, in our country; but they may observe it in combination with the other temperaments, in almost every alternate person they meet in our cities, particularly; and its presence is indicated by an expansion of the superior third of the forehead.

I have reduced this discovery to a highly practical science, which I denominate *the science of physiological marriage*, and it affords the only reliable guide to a physiological marriage, or one that will not be productive of evil consequences to progeny; and, fortunately, it is so simple that any clever Miss of ten summers can, by the aid of a capable instructor, become practical in the application of it in three or four weeks, and without such help, scarcely one per cent. of our most intelligent people could acquire the same ability in the half of a long life. In treating of this science, I have found it useful to divide the four elementary temperaments into two classes, the *vital* and the *non-vital;* the former comprises the sanguine and the bilious, and is so denominated because observation has forced on

me the conviction, that without the agency of one or the other of them, there can be no transmission of life. The latter comprises the lymphatic and the encephalic, and is so denominated because as frequently as I have observed the respective parties to a marriage to be as much as two-thirds of these conditions, so frequently have I learned that three-fourths of their children were dead-born, and the other fourth did not, respectively, live one year.

The vital temperaments I regard as having been founded originally in the constitution of humanity. But the non-vital I hold to have resulted from influences incidental to civilization, thus: it is conceded that wealth resulted from civilization, and wealth induces ease, idleness, and many varieties of indulgence, and these induce debility and lymph in a vital constitution, but more particularly in a humid atmosphere. This condition is not found among savage people, nor among a frontier people; and further, in the preceding thirty-five years, I have observed many sanguine, bilious, and sanguine bilious people to become, in a few years, comparatively, considerably lymphatic, under the influence of ease, idleness, and their associated indulgences; and when this condition becomes induced, no matter to what extent, a lymphatic diathesis becomes entailed, and thus rapidly disseminated.

Mental activity, care, responsibility, and sedentary habits, are about as exclusively incidental to civilization as wealth is, and they, by developing the cerebrum to the neglect of the cerebellum, induce the encephalic condition. This temperament, like the preceding, is not to be found with primitive and frontier people, and when induced it is disseminated by entail. I have frequently observed this condition to be rapidly developed in young men holding responsible situations in banking and commercial houses. It must have been noticed that these non-vital conditions are not exclusively elementary because they are respectively founded on a vital or elementary condition. They are therefore merely adjunctive—induced modifications of vital or elementary conditions.

It must be understood that these adjunctive conditions do not

acquire the consideration of temperaments, until they become so developed as to obliterate the indices of the fundamental condition, except the complexion. It must now be understood why it is that these conditions respectively have not a diagnostic complexion. For if founded on the sanguine condition, the complexion will be fair, but if on the bilious, dark, etc.

It is now seen that there are but two original or primary temperaments, if the preceding views be sound, and so I regard them. Nevertheless, as the non-vital conditions observe the laws of combination, that the others do as they, respectively, exert a specially dynamic influence over the constitution and the mental manifestations, I deem it best to regard and treat them as temperaments. These conditions are of great importance to civilized man,—they greatly increase the varieties of character and useful instrumentalities; but when they become, numerically, greater than the vital conditions, the tendency of the species is toward extinction; and the same is true when the vital conditions acquire a numerical ascendency. Hence, in the present constitution of the species, both classes are indispensable to its prosperity; that is, neither class would alone perpetuate the species.

It is a remarkable fact, in the physiology of the pro-creative functions of humanity, that an extreme similitude, and an extreme dissimilitude of constitution between the respective sexes renders them equally incompatible. For both cause the parties to be either sterile or to entail on their progeny a scrofulous diathesis. As extreme dissimilitude cannot obtain between parties who are, respectively, of the same species, but when they are of remote species, as, when one party is of the white, and the other party is of the negro species of our genus, in such alliances, the progeny is, invariably, scrofulous, I believe. It is, therefore, only of the former branch of the fact of which I now propose to treat.

That a considerable dissimilitude of constitution between the respective parties to a marriage is essential to the production of a sound and viable progeny, is a fact that admits of no disputation; and, indeed, an impression of this truth is, instinc-

tively, founded in the human mind, as is shown by the fact, that people contemplating marriage prefer a difference or contrast between themselves, respectively, and the party wanted. This instinct is right, but, before it can be trusted, it must be enlightened. In this relation, I present the following laws:—

Firstly.—*When the respective parties to a marriage are so nearly similar that a qualified observer cannot detect any appreciable difference between them, sterility will be the result.* Illustration.—General Washington and his wife were, respectively, sanguine, and sterility is known to have been the result; and General Jackson and his wife were, respectively, bilious, and and sterility is known to have been the result. The first Napoleon and his first wife though, apparently and nominally, they were dissimilar, and yet, physiologically, they were very similar. His constitution was *sanguine, bilious, encephalo-lymphatic*, and she was *bilious-encephalic;* hence, they were, respectively, compounded of equal moieties of vital and non-vital conditions, and their marriage was sterile.

Secondly.—*When the constitutional difference between married parties is slight, but appreciable, progeny may result, but it will be either imbecile, scrofulous, deaf, blind, or unfortunate in some other respect.* The second wife of Napoleon was sanguine encephalo-bilious; hence, in having none of the lymphatic, it differed from his,—her constitution was one-third non-vital, and his was one-half; this difference brought them a son, but the difference was too small to save him from a scrofulous diathesis and a scrofulous death before adult age.

Thirdly.—The marriage most favorable to a sound and viable progeny, is that in which the parties are, constitutionally, as dissimiliar as it is possible for them to be, within the limits of the species,—that is, one party is exclusively vital and the other is as non-vital as possible, as, when one party is sanguine and the other is lymphatic or encephalic. But as such marriages are greatly impractical in any country, and as a less degree of dissimilitude is productive of a physiological marriage, I found it to be essential that I should find the law that covered all degrees of physiological marriage, that is, all marriages compatible with a sound and viable progeny; and that law is

FOURTHLY.—*One of the parties must be vital, that is, sanguine, bilious, or sanguine-bilious,* (the last, being a compound of the two former, is also viable, and may be substituted for either of them,) *and the other party must be more or less non-vital, and more the better, and less than one-third I cannot advise.* Those who make a viable progeny a condition of marriage must conform to this law, and all infringements of it will be attended with evil consequences. It will now be seen that the marriages of Washington, Jackson, and Napoleon were, respectively, violations of the fourth law.

I will conclude by presenting a few cases of my practice in this relation, out of about three hundred of which I have memoranda, to illustrate the truth of the subject and its practical application.

In 1848, in Oxford, Miss., Mrs. ——— called on me and said: "Prof. POWELL, by my attention to your lectures, my curiosity to have your opinion of my marriage has been excited. This, sir," handing me a little box, "is a daguerreotype of my husband." After directing my attention to it, I responded: I think your marriage has been unfortunate. She rejoined: "how unfortunate?" I answered, you have had no offspring, I think; but if — she interrupted by saying: "you have no need of any buts or ifs, for you have fully answered my question. I have been married more than eighteen years, but am still childless."

These parties were respectively *bilious encephalic.*

In 1849, at Raleigh, Tenn., Mr. ———, a planter, called on me and said: "Professor, I heard your lecture last night, and as regards children, I have been rather unfortunate. I have called with a portrait of my wife to obtain your opinion of my prospect of children by her." I responded: as both of you have a sound and healthy appearance, I think your prospect of children is very good, but they will not be such as either you or she will desire. He rejoined, "why not, sir?" I answered, because, they will die of a scrofulous affection of the abdominal glands before attaining the age of six years, respectively. He rejoined: "She has brought me six, but, sir, they are all under the sod, and all died as you have stated, and the cholera

took her off, and I married again, and this miniature is a good likeness of my present wife, now sir, what do you think of my present prospects of viable children?" I responded, it is good, no man has better. He rejoined, by raising his feet, rubbing his hands, and exclaiming "I have three as fine boys as any body ever saw!"

This gentleman and his first wife were, respectively, *sanguine, bilious, lymphatic;* and his second wife was *bilious.*

In October, 1860, Mr. ——— and his wife called on me at my study. He said, "My wife and I have been informed that if you see a married couple you can tell what their luck will be as regards children, is it true, sir?" I responded: it is. He rejoined: "well sir, we have called to get you to tell us, if you please?" I answered: from your apparent ages, respectively, I think you have had your luck, and know more about it than I can tell you. He laughed and said: "you are right, sir, but we desire your opinion of what it has been?" I responded: you appear to be influenced by curiosity. He rejoined: "perhaps we are, sir, to some extent, but you will greatly oblige by giving us your opinion?" I responded: your luck has been of the worst possible character, for if your wife has had children, of which I am doubtful, three-fourths of them were dead-born and the others did not, respectively, live one year. I now addressed the wife: have you had children, madame? She answered: "yes, sir, eleven, and nine of them were dead-born, and the others lived only a few months.

I now addressed the husband: were not you and your wife sent here to try me? After a pause of hesitation, he answered: "yes, sir; two doctors, who have known us for many years to be sound and healthy, thought you could not tell what our luck had been, persuaded us to come and try you; I hope you will not blame us, for we meant no harm." I rejoined: as I have granted the favor you asked for, I desire you to do me a favor. He rejoined: "well, sir, what is it?" I answered: I wish you to say to those doctors, that I say they have not minds enough for doctors, but enough for chicken-thieves, and that for it they are mean enough. He answered: "I will do it, sir; for they ought not to have sent us here."

These parties were, respectively, *bilious encephalo-lymphatic.* He was more encephalic than she, and she more lymphatic than he; and, but for this difference, sterility would, probably, have been the result of their marriage.

In September, 1861, Mrs. ———, of Indiana, called on me said: "Prof. POWELL, I have been, as I suppose, reliably informed that if you see a married couple, or their portraits, you can tell whether they are compatible or not; have I been correctly informed, sir?" I responded: you have madame. She rejoined: "when I obtained this information it interested me so much that I consulted several of my city physicians about it. They said, that they had heard of your pretensions and thought it to be an impossibility, and that you must be an extravagant humbug; but such was the source of my information that I did not yield to their opinions; and, as I had business up here, I resolved to bring my husband's daguerreotype and ascertain how the fact might be for myself. Here it is, sir. Now, if you please, your opinion of our marriage?" I responded: your marriage, I think, has been unfortunate, for if you have had children,—which is possible but scarcely probable,—they were either imbecile, died in early infancy of dropsy of the brain, or of a scrofulous variety of brain fever. She rejoined: "now, sir, I have the satisfaction of knowing that your pretension is not only possible but demonstrable. I am not, however, surprised that my physicians should have thought your pretensions impossible, but I am surprised that they should have so confidently expressed an opinion about a subject of which they certainly knew nothing." She resumed: "I have three children, sir, my first is still living, but my physician and neighbors say, that he is an idiot, but you say imbecile, pray, sir, what is the difference?" I explained. She rejoined: "then, sir, he is not an idiot, but an imbecile, my second died in the cradle of water on the brain, and my third, at about the same age, died of brain fever, but of what variety I never learned." She continued: "have I nothing to hope from my marriage better than I have had?" I answered: nothing except, probably, sterility. She added: "you have, beyond any doubt, made a discovery

that will bless the world, and I rejoice to find you are more than equal to my most sanguine expectations."

These parties were respectively *bilious encephalic.* He was more encephalic than she, and she was more bilious than he; because of this difference children resulted. But believing that her maternally blighted hopes had increased, and was increasing, her encephalic condition, I thought it probable that sterility would result for her future.

In Oct., 1861, H——, Esq., called on me, from one of the lower counties of Kentucky, and said: "Professor POWELL, I have learned that if you see a married couple, or their portraits, you can tell whether they are fit for progenitors or not; is it true, sir?" I responded, it is. He rejoined: "It has always appeared to me to be reasonable, to suppose that human nature possessed the elements of the science of its most important function; the reproductive. Yet, as the literature of the day has not even furnished an intimation that such had been imagined as possible, and much less as having been discovered and developed into full blown reality, and hence I was sceptical about it, when informed of your pretension, and therefore I consulted several physicians about it, and with one exception your pretension was pronounced an impossibility, and you a humbug. But one of them said he 'had not heard of your pretension, but if you made such a pretension, he was inclined to believe you capable of the reality; that about twenty years ago, when you were a professor in the Medical College in New Orleans, he heard you lecture, and that you were then regarded as one of the most bold and original thinkers of the age. Sure I am, there is no humbug about him.' This, sir, encouraged me, and as I had business up here, I resolved to bring my wife's daguerreotype with me, and put you to the test of your pretension, provided you subject yourself to such tests." I rejoined: I do, sir, and am pleased to have them, because they furnish me new facts. He handed to me the daguerreotype with the interrogatory: "Are we fit for progenitors?" I responded: as you and she have a physiologically sound and healthy appearance, it is my opinion that in the abstract you are favorably

constituted for progenitors, but in relation to each other, you are not. He rejoined, "what is the difficulty?" I answered, it is that your children will die of tabes mesenterica before attaining, respectively, the age of six years. He resumed: "You have got the prince of all the sciences; you have demonstrated the truth of all I have heard of you. A more sound and healthy couple than my wife and myself now are, and always have been, do not probably live, and yet, of the six children my wife has brought me, four have died as you have said they would, the fifth is going the same way, and the sixth is an infant and now appears promising. Must we lose it, too?" I answered, I think you will.

He continued: "My physicians insist that scrofula must have obtained in the ancestry of myself or my wife, but I am very confident that such was not the fact. What do you think of it, sir?" I responded: I know nothing of the ancestors of either you or your wife, and therefore have no opinion in relation to them. My conclusions in relation to your children were founded exclusively on my conception of the constitutions of you and your wife, respectively, and it was to the incompatibility between them that I attributed the scrofulous loss of your children, consequently I can conceive of no necessity for supposing scrofula to have obtained in the ancestry of either of you, but it may have, and therefore your physicians may be correct, for I know nothing about it, nor can I conceive of any necessity for the supposition. He resumed: "Would not this marriage incompatibility be a sufficient plea to either party for a divorce?" I answered: As it defeats the object of the marriage institution, it ought to be, and ultimately it will, I doubt not, but not now, I think. He rejoined, "but why not now?" I answered, because it is not known to our courts, physicians, or people. He continued: "Suppose I had brought you my wife's daguerreotype before we married; could you have informd me what would happen as you have what has happened?" I answered, the same, sir. He rejoined: "This subject is so important to the people that they will not long tolerate their physicians in an ignorance of it, consequently they will have to bestir themselves."

By the aid of this contribution, any physician who has but a very imperfect acquaintance with the temperaments can, in the circle of his own practice, in less than a day, satisfy himself of the truth of this discovery; because incompatible marriages and their consequences abundantly obtain in every town and city in our country. Physicians are now everywhere heard to say, that the children of some people cannot be cured when they become sick. Whose children are these? I answer: they are those of incompatible parents, for, invariably, if they escape imbecility, deafness, or blindness they have depraved constitutions.

The preceding parties were, respectively, *sanguine*, *bilious*, *lymphatic*, and very similar to the first parties in the second case,—and so were the results,—thus showing that the physiological, like the other natural laws, are uniform in their results.

I promptly respond to all questions, honestly propounded, in this relation. My observations in this relation for more than eighteen years have forced upon me the conviction that, physiologically, incompatible marriage is the remote cause of the scrofulous diathesis.

ARTICLE XIV.

COLD AND WET A CAUSE OF CAMP DISEASE, AND ITS MODUS OPERANDI.

By C. A. HUNT, M.D., Surgeon of 126th Reg't Ill. Vol.

My sanitary report of March, having been suggested by the Medical Director for the consideration of the Society, and myself being appointed the essayist, I take the occasion to make the report conform to the nature of an essay, with more extended remarks in relation thereto.

Just at this period of the season, following a cold and protracted rain, I noted the following effects of it upon my own regiment, while stationed near Jackson, Tenn. There were about twenty-five taken off duty with the following peculiarity,

in nine companies remaining in this one camp:—About ten had cold and cough, or catarrh; six took *pneumonia biliosa;* two *pneumonia typhoides;* two bronchitis with aphonia; one an intermittent, and about five with diarrhœa. In the one company stationed four miles south of Jackson, on the railroad, had nine taken sick at the same time, in which one case assumed the form of a remittent type of fever, and eight that of dysenteric flux. In this connection I draw the attention to these various cases, all arising from one cause, for two purposes; one, to show how single may be the exciting cause, and how great the variety of results under precisely the same circumstances, and, secondly, to impress the fact, that cold and wet are causes sufficiently forcible in action upon the body to induce nearly all the common diseases of camp life. I do not say that it does do it, especially during warm weather, but only speak of its efficiency during the seasons of their prevalence in combination, and upon that basis will show by what means, and through what channels, the various results are brought about.

I now propose to call attention to that part of my subject; not designing to argue the special production of any one disease, or class of diseases, but to set forth the general tendencies and common results, as applicable to any disease, which can result from sudden abstraction of heat followed by intropulsed fluids, and wish incidentally to say, that the subject has been neglected by the profession, who have been satisfied with *phenomena* alone, without being arrested by the very great importance of estimating the causation, and the paramount necessity of guarding against these agencies so common around us.

The phraseology of *taking cold* is familiar to all of us, and is even the expressive term used by literary men, derived from the common notion that they have imbibed *cold* which has found a location in the body, as it existed out of it, and like the kindred phrase of drawing out fire after a burn, has passed down into a fire side axiom.

The question, in its philosophic sense, comes up, how do we take cold? We evidently do not contract it from water, or dampness, or from the air, or from the earth, because all these

elements, or partitions, of the habitable globe, are populated with birds, fishes, animals, and insects, constructed as we are, of the same constituents, of the same organic relations, and breathe the same air, drink the same water, and live upon the same food, and pass through the same process to dissolution, and yet they are not effected by it. There is nothing in air or water which, in themselves, are poisonous, or causative of disease. The whole explanation lies in the sudden abstraction of heat from the body, to the extent that *the organic forces of the economy become a deranged relation to the matter of which the body is composed.* This is effected in two ways: First, by conduction, and second, by evaporation. The process of conduction of the heat is carried on by the contiguity of damp clothing, together with the contact of air charged with floating vapor. The clothing, which when dry is porous and a poor conductor of heat, but when wet, has its porous interstices filled with watery particles, to the extent that a complete surface and uninterrupted sheet of conducting material is thus presented to carry off the heat of the body, and superadded to this silent, continuous contact, there are globules of air constantly picking up and bearing off the particles of vapor which have become warmed by the body, and substitute such as are cold. But when evaporation supercedes conduction, or both operate together, as is common, then the cooling process is still more rapid. For each globule of air feels itself especially commissioned to fill its little canteen with its 1,000° of heat, and on its pinions seek the moving gale, or the lungs of some adjacent plant or tree. In this way the air becomes very officious, at the same time, in reducing the heat of the body; for while each air particle is expanded and moving off with its calorie balloon, freighted with the warm vapor, into greater altitudes, the cold air is rushing in to fill the place, and again flies off by the expansive levity which it borrowed from the body itself.

Those medical men who have had occasion to use cold lotions to inflamed parts can comprehend, to some extent, what would be the result should they apply that same lotion to the entire body at the same time, for such is the effect of wet and cold,

after a cold rain, or cold following rain. What is the result of its sudden application? It causes a sudden intropulsion of the fluids of the exterior in upon the interior organs, which of course become not only overcharged with recrementitious matter, but also of a remora of blood, which was due to the capillary surface. To compensate for this *physiological result*, (for it is yet physiological,) the interior organs are forced into a vicarious action, in order, in some way to equallize the effect and pressure. This physiologieal action, however, I do not array here as being any part of diseased action, but it is a normal process so excessive in extent that disease often results, not from the influx of the recrementitious matter, but from the remora of blood producing overdistension of some local capillary network. The intropulsion of the recrementitious secretion of the dermoid tissue must become of very feeble importance in the chain of abnormal phenomena, for the reason, that the secretion itself is not vitiated when it retreats from the surface, and cannot become so after the blood retreats, for the secretion is suspended until the blood returns.

If it be meant that the effete atoms of the worn out tissues are thus productive of disease, when thus suddenly driven in from the surface, I would say that the position is equally fallacious, for the same reason that the process of repletion and waste is also suspended, and there is no excess. And the idea that the changed relation of the fluids of the body from one part to another, as a cause, is of itself untenable, because the organism is in constant process of such changes, in winter and summer. That process is experienced by the diver into cold water; by the æronaut in the suddenly rarified air, also by persons descending into wells and ice-houses, during summer, etc. These physiological actions must not be looked upon as causative, but only as a normal process by which, and through which, and after which, disease does often occur.

To illustrate that point, I will introduce an engine with two boilers, with steam enough on to run a given weight in a mill or train. I connect the boilers so that they communicate with each other. I am under way, in full motion. I now bring sud-

denly in contact with one boiler cold enough to bring about sudden condensation of the steam back into water. The sequence of that abnormal act is this: when the condensation occurs, and a vacuum is formed, the steam forces the water from the other boiler into it until by oscillation the equilibrium is restored. But the engine stops. Why? Not because of the change of the fluids from one boiler to the other; not because of an influx or remora of fluid into the first boiler, but because of the changed relation of the *heat* to the *matter*, *water*, which propelled the engine. What was lost in this process? Not *water*, but *heat*. The *heat*, then, we observe, is the moving power, and not the water, the latter being only the recepticle, or agency, in effecting motion to other matter. Now it must not be lost sight of, that this same heat is the moving power in the animal economy, as well as everywhere in the known universe. I will state a basis of all pathological, as well as physiological action, upon which rests all the causative agency of all diseases, and it applies to all circumstances; it is this: No *diseased action can begin or exist*, except by first a *deranged relation* of the *organic forces* to the *matter of the body*, or a *changed relation of the matter of the body to the forces*. When I speak of forces, as applied to animal or vegetable, I mean heat and light, and their transitions into electricity and magnetism, and when I speak of matter, I mean the material structure of the body, whether gas, fluid, or solids. It is the heat power which effects motion, and the light, identity of place and function. I will explain this point. If any circumstances shall change the heat and light which would be required to perfect the growth of a tree, the tree would decline and die. If, on the other hand, we girdle the tree, so that the fluids are changed in their relation to the forces, light and heat, the tree also dies. Hence, it seems to me plain, that in order to have integrity of life and health of this tree, there must be the proper integrity of both the forces, and the matter. If either fails to be perfect, disease must occur, and probably death. Precisely this condition, and these circumstances, presents themselves in the vegeto-animal economy, except that both are required in greater abundance, because

of greater waste. The importance of the production of these two forces may be better estimated, when it is considered that all motion of mind and body is due to one, while the replenishment is due to the other; the matter being furnished. Now when this heat of the surface was suddenly consumed, as it was in the one boiler, it became necessary to have it as suddenly restored, if possible, in order to prevent a cessation of function. Hence the heart immediately puts on the construction train, and the new material, containing a large supply of oxygen, is blindly yet vigorously furnished to the exterior, to supply the defect as soon as possible, and when the entire surface is reached, there appears an excessive action. Suddenly, instead of the pallid surface and blanched countenance, and small pulse, and dry, cold skin, and general suspension of dermoid secretion, we now have a *hot skin*, *tumid face*, *high pulse*, *hurried and suffused countenance*, the capillaries now over-distended with blood, the secretory cells overpowered with excess of the same, which still suspends secretion. This *is a condition* which has got the name of *Fever*. I will not stop here now, to treat that topic, however.

The assimilative functions, which hold their laboratory in the extreme capillaries, also suffer diminution in the same degree. Here are atoms of matter, all through the tissue, which have become effete, but not yet cast off to give place to the new matter; but, on the contrary, are yet in the cell-wall and subject to the action of oxygen, which *partially* acts upon them. Although the abnormal relations now existing between the oxygen, the blood capillaries, and absorbents will not resume function yet so much as to consume these atoms, so that they can be dissolved into fluid and be carried away; but they are oxygenated, and, while under this process, are giving out excess of heat, not to be expended in normal motions, or not to be taken up by the excretion of the skin, for it is checked, or not to be consumed by the dissolving atoms into water, for they do not dissolve; but to be spent upon *remote parts* as well as *adjacent parts*, and out of it may appear arterial excitement, wild mental action, muscular excesses, spasms, diarrhœa, cough,

delirium, &c., &c., all of which are results of excessive action, evinced in the inordinate expenditure of heat; for. it must be observed, that the heat generated must be expended and compromised somewhere in the economy, and any abnormal or excessive action or motion is the evidence of excessive heat, whose expenditure has devolved upon that part for want of ready equalization. Could the worn-out atoms be liquified as fast as burned, or partly burned, the function of repletion would not be checked, and the process of food-taking in disease would not be checked by first checking the appetite; nor could there be any abnormal action when the office of waste and repletion is in balance.

The disturbance in this balance is the derangement of the matter of the body to the forces; for, when atoms of tissue are not broken down, and elimination, of course, there can be no place for new matter, and no demand. Now, this process of overheating is a reaction upon the previous abstraction of heat. This is a general process; and the true phenomena, though not always in the same degree, is as plain as the phenomena of the two boilers.

Every disturbance in the motion of either solids or fluids is caused by a disturbance in the heat force, and a derangement of the force in relation to the fluid or solid. What is the whole process of changing atoms, either in act of deposit or waste, in secretion or excretion, in production or re-production, but the new relations of matter, which, if presented to the forces always the same, must be attended with the same results, provided the forces are normal also. The process of oxygenation of the effete tissues must be either partial or complete, if acted upon at all, and in this process lies the most important to health of any physiological act in the economy. We observe, and it has escaped no physician, that the effete atoms are not removed, except in a slow process, during disease; and, in our lingering constitutional diseases, such as, for instance, typhoid fever, the oxygenation is, at first, more active and the heat higher, yet the tissues *do not change place*, and there is no call for repletion.

After a time, the oxygenation becomes more difficult,—the

fever and heat declines,—still there is no change; and not until the crisis is formed, and the cell-walls give up their dead, and the old atoms begin to pass off, do we see the cheeks sink in, and emaciation become general, that the appetite arouses and repletion commences. This process of waste and repletion is the controlling function of the organism, and becomes, or is likely to be, effected by the action of cold, or by any other means by which the *forces* and the *matter* become deranged. I will not dwell longer on this most interesting topic, all of which has an especial bearing on disease.

This effect is the process, occurring wherever fever exists, or any other constitutional affection, which so generally involves the many functions of the body; and, I wish here to be understood, that the general fever does not cause this general assimilitive disturbance, but that fever is the result of it, and is *symptomatic of it.* Fever has no individuality, no more than *any other disease;* but they all result from a chain of deranged phenomena, in which the process of waste and repletion are paramount in the line of causation. Now, upon this intropulsion from sudden cold, the common laws of natural order prevails, that of *contraction* where *heat is not*, and *expansion where it is;* hence the first contractile impress is made right where colorification begins upon the surface. We now have the intropulsive; and remora takes place in capillaries of some internal organ,—say the lungs,—but, upon reaction, this remora ceases before permanent hyperemia occurs, except, probably, in a circumscribed patch of tissue in which inflammation or congestion and, finally, suppuration occurs.

Now, I ask, why did not healthy action proceed after this first engorgement, or after the hyperemia became permanent? There was no trouble now in the heat and light, for the heat has become really in excess, and just as ready to act legitimately through that spot as any other. It is this. The matter there has now become deranged, as relates to the forces. First, the forces were deranged, and now a succession of phenomena has arisen, by which the matter is deranged to the forces, and death of the part, or *local death*, has occurred.

While the effete atoms are in process of combustion and heat is being generated, the skin would soon lower the heat were its functions not arrested by the same act. More than that, the liquifying the solids is also a cooling process, for no solid can become fluid without the absorption of much heat, and in this process much of the excess of heat would be equalized. were it not for the fact, that these atoms are not thus liberated from the cell-wall or liquified. That process too is arrested: and the vicarious act of disposing of the forces is greater than that of disposing of the deranged secretion or supposed peccant humors.

As to the production of disease, it matters not whether the heat of the body is suddenly abstracted in one part, and the elements of the body inordinately taxed to reproduce it, or whether, by the reaction, occasioned by the supply of heat, has so deranged the cell function that the effete solids can be oxygenated and not liquified. In both cases, the derangement of the organic forces,—*light and heat*,— are disturbed, in relation to the matter, the same as the heat to the water in the engine. On the contrary, should I choke up one boiler with foreign matter, or contract the boiler to half size, then the engine would also stop, for I would change the relation of the matter to the force. In either case, the condition of those relations will be manifest all the way through, until the identity of the organism shall be destroyed. This brings me back to the text, that the sudden abstraction of heat by *cold and wet*, (which is the same in effect.) produces disease, either by deranging the forces to the matter or the matter the forces; and that the mere change of the fluids is not the *cause of disease*, but one process in the chain of results. Why does this process of concentrated action so often develope disease in the mucous membrane and parenchyma of the lungs? The principle reason exists in the yielding character of those tissues which have not elasticity enough to regain their lost condition from the remora. In this stage of remora the vessels become charged with blood, and eight-tenths will, upon reaction, resume their pristine level; while one-fifth will remain with distended vessels, some parts of which may run into inflammation, and others into congestion.

I would here beg leave to say, that although pus forms during a low inflammatory process, it is equally certain that the same vessel in which it forms becomes congested, or relaxed, and over-distended before the exudation period. This is the changed relation of matter to the forces. Again, the mucous membrane is more obnoxious to this intropulsion, because it is slowest in throwing off excessive influx of extraneous fluids, and slowest in its secretion and excretion. It is the most yielding tissue in the body to vascular pressure So yielding is this tissue to distension, that I doubt if true inflammation ever is developed in it, unless the adjacent tissues are equally implicated. Congestion, following remora, is, undoubtedly, the pathological condition of the diseases which are developed in it. These two are the accumulated evidences of changed matter, in relation to the forces.

I do not mean to assert that the changed relation of forces all proceed from sudden extraction of cold. On the contrary, the act of taking cold or catarrh is often produced in dry, warm weather, and while in the house. This is owing to the electrical or magnetic condition of the air, which controls the *organic forces* of the animal system. Instances of this meterological influence upon the organic forces is shown in all the animal world, not only during disease but in health. In a word, the *forces* of the economy are directly in relation to the process of *combustion within the body*, and the forces and vicissitudes of all nature without the body; while the matter of the economy is in direct relation to the food consumed and the process of æration.

The abstraction of *heat* then, to the extent of organic derangement, first involves the *forces* by which the circulation is deranged; succeeding to this, consecutively appears in some locality, a disease in the solids, in which appears deranged matter. This diseased spot then being beyond the reparative process of repletion and waste, fails to develope the phenomena of life any longer, and must drop into other relations common to decay.

Army Correspondence.

FLOATING HOSPITAL, "NASHVILLE,"
April 27th, 1863.

DR. DAVIS,

DEAR SIR:—A long time has elapsed since my last writing; and during that time I have only had the opportunity to see the wounded of one battle,—namely, Corinth,—where I remained but seven days before I fell sick myself, and, in consequence thereof, did not write. That being now so long past, and especially as you, probably, had accounts from that field, I will not attempt to say anything about it, but give you the histories of one or two cases on the flag-boat "Nashville," where I am staying at present.

CASE I.—C. S., soldier, American, aged 25, was admitted to hospital, April 15th, as convalescent from diarrhœa: Tongue was clean; bowels regular; body emaciated; and the pulse regular, but weak. He had quinia et. ferri. citras., in small doses, simply as a desirable tonic to aid in building up his strength, and to eradicate any remains of malarious poison which might be lurking in his system. In the meantime he had permission to take exercise both on board and on shore. This course was pursued with apparent benefit until noon of the 17th. During the forenoon he had been quite active and cheerful; and when the dinner-bell rung, he remarked, that he would go and take his place at the first table. He started, and arrived at the head of the stairs, when he fell upon the floor. Word was brought me immediately, but when I reached him he was quite dead. At the autopsy, four hours after death, the rigor mortis was well-marked, the body not *extremely* emaciated, and suggillation, in dependent parts of the body, very distinct. The brain and spinal cord were exposed by the usual incisions, with no noteworthy circumstance attending, except, perhaps, that, upon division of the vertebral veins, fluid blood, to the amount of two quarts, was poured out. There was fluid contained within the

membranes of the cord to the amount of, probably, f℥iv. The dura mater was, abnormally, adherent to the skull at the base of the brain, and contained about f℥ii. of effused fluid. The base of the brain was thought to be slightly softened, but, in the absence of the microscope, it could not be with absolute certainty decided. The membranes and substances of both brain and cord were considerably congested, but the nervous matter of the cord appeared to have suffered no structural lesion. The lungs were healthy. Within the pericardium was found f℥iv. or v. of serum. The muscular tissue of the heart was somewhat softened, and traces of congestion were observed. Stomach was simply congested,—liver healthy. The bowels, with the exception of the duodenum, showed evidence of nothing more than congestion of a passive character. The duodenum had, evidently, been the seat of both inflammation and ulceration: and, in several circular patches, the mucous and muscular coats were destroyed, leaving but the peritoneum. Perforation, however, had not occurred; and the ulcers seemed in process of cicatrization. The kidneys were much congested, but quite firm. This congestion appeared to have been quite recent, and to approach more nearly to an active arterial congestion than anything discovered elsewhere.

CASE II.—E. D., Frenchman, aged 25, had been admitted to hospital, April 17th, with chronic diarrhœa. He became convalescent under the use of the usual remedies; and upon the 27th was permitted to go on shore for exercise. He, however, took advantage of the opportunity to go to the sutler's store and obtain some nuts, Bologna sausages, &c., and also to strip off and bathe in the water of an adjacent bayou. During the afternoon of the 28th he was attacked suddenly with spasms, together with complete abolition of consciousness; dilated pupils; feeble and frequent pulse; and slightly stertorous breathing. Chloroform was administered with apparent benefit, and, upon the return of consciousness, also some carbonate of ammonia. He soon relapsed into another paroxysm, which was followed by a third, in which he died. Four hours after death, the body was examined. It was much emaciated,—the rigor

mortis well-marked, and but little suggillation. Upon removal of the calvarium, several spots of effused lymph were discovered between the dura mater and parietal bones, together with considerable congestion of its surface. Beneath the dura mater was found two ounces of serous fluid. The brain, however, appeared to be only passively congested. The ventricles,—particularly the fourth,—were filled up with serum. The brain was unusually firm. The heart was found empty. Lungs, liver, stomach, and bowels all,—with the exception of some congestion,—healthy.

Cases of a similar character to the above have repeatedly occurred here, commencing as early as the 1st of March. As I have noticed but little intermittent here, yet I am not of the opinion that they are the result directly of miasmatic influence, though they bear, apparently, some relation to the pernicious intermittent of this latitude. The patients almost universally present marked emaciation, with great tendency to œdema and anascarca; but, aside from the debility thus indicated, very frequently do not present marked symptoms of disease. One case was of a nurse who had not been taking medicine, and had been on duty regularly. In the evening, saying, he felt unwell, he went to his bed and lay down: and, at the end of four hours, when his watch came on, he was found quite dead, and had evidently been so from one to two hours. From some cause the blood is excessively impoverished and the tissues of the body very imperfectly nourished; and, as is universally the case with debilitated subjects, congestions are very liable to occur, and to result in rapid and copious effusions.

If this is the true pathology of these cases, the important and interesting question becomes necessary: what is the cause at work which produces such a debilitated condition? It is not, certainly, in every instance disease,—in the more common acceptation of the term,—for men become so debilitated and even die off thus suddenly. Who will say, they have not "been sick, but have only run down weak?" In the solution of the question, one would, naturally, first turn to the food furnished the patients. Doing so, we find the rations ample in quantity,

and of a quality sufficiently nutritious to sustain a man in vigorous health. Late physiologists, however, assert, that food, to be readily digested, should be palatable, and that the rations, *unless properly cooked*, are not.

Few of the soldiers are good cooks, and a less number still deem good cookery of sufficient importance to give it the attention which it deserves. Even the officers do not seem to understand or appreciate the fact, that food, before it is eaten, should be cooked. Cases have occurred upon this river, in which a whole regiment has been cooped up on a boat for as long a period as thirty days; and with no other chance for cooking than the boiler furnaces. Of course, the mass of the men were compelled to eat their food uncooked; and, even when the boat lies tied to the shore, still, for fear the men will get scattered, they are retained on the boat. This has been done, if not with the consent of the medical officer, at least, *not* contrary to his vigorous remonstrance; and thus the soldiers suffer a wrong, without the shadow of a chance for redress.

Probably, another great cause of the debility of these patients is, the utter listless inactivity of camp life. Troops should be compelled to take a certain amount of exercise every day: for, where this is not done, numbers will rise only upon the call to meals. Artillerists and cavalry, who have their horses to take care of, are admitted to be more healthy than infantry. Fatigue squads, who work from day to day, have only a small proportion of sick, in comparison with common soldiery.

These evils of cookery, diet, and exercise, probably, cannot be remedied in the time which our volunteer force is likely to remain in the field. Still, a proper appreciation, upon the part even of the officers, of the causes of disease, would save many a life which is now uselessly wasted. I hope and believe that the time is coming when military officers will learn that to disregard the advice of their surgeons will not promote the efficiency of their commands; and when the medical officers, feeling their responsibility for the lives and health of their men, will not hesitate to use every means in their power to promote their welfare. Yours truly, O. B. ORMSBY,

Assistant-Surgeon, 18th Regt. Ill. Vols.

Ion Plantation, La.,
Head-Quarters 69th Indiana Vol. Infantry,
April 13th, 1863.

Editor of Medical Examiner.

Dear Sir:—The following case may be of interest to you and your readers:—

Mr. S., Co. G., a teamster, on the 10th of April, whilst removing a wagon-hammer, received a blow from it upon the left super ciliary ridge, inflicting an incised contused wound about one inch in length. He was knocked down by the blow, but, by the time I reached him, was sitting up, and complained a little of his head aching; but, as it was nearly night, thought that by sleeping he would be all right in the morning. In the morning, he went to work as usual, and made no farther complaint until the evening of the 13th, when he came to me and desired me to dress the wound with adhesive-plaster, as he found the water dressing rather inconvenient. In conversing with him, I found that he had a slight headache most of the time, but nothing serious, and, further, that he could not see so as to distinguish one object from another; but there was nothing in the appearance of the eye to indicate anything remarkable, except that it was considerably ecchymosed.

On the evening of the 14th, whilst carrying a bucket of water, he fell and expired after drawing only one or two breaths.

Autopsy.—April 15th, fifteen hours after death:—The posterior part of the scalp was well-filled with blood, but the tissues were not contused. On opening the cranium, the cerebellum seemed in a healthy condition, with no inflammatory indications at any point. On opening the ventricles, a small clot, about the size of a crow's quill, was found in each ventricle. On raising the tentorium cerebelli, I found the cavity beneath very full of liquid blood; and, on removing the cerebellum, a small fissure was found in the right bassilar vein, about half a-line in length; and also the internal and posterior portion of petrous part of the temporal bone fractured about one inch in length. In haste, I am yours truly, W. B. WITT,

1st Assistant and Acting-Surgeon, 69th Ind. Vol. Infantry.

The Clinique.

IMPROVED METHODS OF TREATMENT IN JOINT DISEASES.

By E. ANDREWS, M.D., Professor of Surgery.

GENTLEMEN:—Within the past three years, the improvements in the treatment of joint diseases have outstripped surgical literature, and have produced valuable practical ideas, which as yet are not to be found in our standard text-books. As I desire to keep you informed in all valuable improvements, I have concluded to call your attention to this topic in particular, this morning.

I present you here three patients. One has a hip-disease; one a disease of the knee-joint; and one a curvature of the spine; three diseases which have been the torment and stumbling-block of surgeons through all time, but which are now about to contribute to their honor and renown.

This case of hip-disease does not differ from others which I have often placed before you, except in being in an older patient. In most instances, it is confined to the age of childhood, but in this instance it commenced at the age of sixteen, and has continued till twenty-two. An English surgeon states, that such late cases do not proceed to suppuration and caries; but this one is both suppurating and carious, and will require excision of the head of the femur. To-day, however, I simply wish you to observe the disease of the hip, for the purpose of fixing in your memory the perfect analogy between hip-disease and knee-disease. Chronic inflammation of the knee-joint, unlike that of the hip, occurs, without distinction, at all ages; but, in its causes, course, and treatment, it follows the same laws. A few months ago this knee began to be tender and lame, apparently, in consequence of a slight injury received in the vicinity. From that time to this it has gradually grown worse. At present it displays the following appearances:—The outline of the

knee is a little enlarged and not perfectly natural in shape, indicating that the cartilages and bones are hypertrophied. It is not anchylosed, but the motions are much restricted, and the patient habitually carries it in a bent position. This position is characteristic, and is based on instinct. For to maintain the extended position, the vast strength of the *quadriceps femoris* muscle is brought to bear, and, at the same time, the extension tightens the flexors. All this causes an increase of pressure of the inflamed surfaces of the joint upon each other, and a consequent aggravation of the pain. Hence, the patient, instinctively, bends the knee to such a point as he finds, by experience, gives the least amount of suffering.

The external appearances of these cases differ greatly. Some present us with knees in which you can detect scracely the slightest alteration of the shape, while others show great swelling, anchylosis, and atrophy of the muscles of the thigh. A greater or less degree of lameness always exists.

The disease preserves a perfect anology to hip-disease, in its causes, course, and results. It takes its origin in an aplastic diathesis, acted upon by any mechanical irritation. Thus, it may arise, in such a diathesis, from a blow on the knee, from a wrench or strain, from a fracture in the vicinity, or from over-exercise in running, jumping, or even walking. Like hip-disease also, it does not attack rheumatic constitutions; nor have I ever known rheumatism of the knee to degenerate into this disease. The two seem to be opposed to each other, although, they bear so close a resemblence that, in early stages, I have repeatedly seen this disease mistaken and treated for rheumatism.

It is convenient to divide the course of this disease into two stages.

The first is the stage of inflammation merely, and the second is the stage of caries and suppuration.

In the first stage, we have pain in walking, flexion of the knee, and, generally, some deformity. As the case progresses, it shows, by its appearance, whether it merely affects the synovial membrane, or involves also the cartilages and bones. In

the first case, there will be very little deformity, but only pain and tenderness. In the other case, (where the cartilages and bones suffer,) the form of the joint becomes notably changed, and its diameter enlarged. Some cases recover spontaneously from this stage, but others proceed to the effusion of plastic lymph and fibrous anchylosis of the joint. At this point, some additional recoveries occur with loss of motion. A large number, however, unfortunately proceed to the second stage of the disease,—that of suppuration and caries. The capsule of the joint bursts, and the pus gushes out and continues to flow until the patient dies of exhaustion, or, in a few instances, recovers by the slow extrusion of all the carious spiculæ of bone. Such is the course of the common knee-joint disease, which you see is, in all main points, identical in nature and results with hip-disease.

There is one point of considerable interest in the pathology of these cases, which I will mention, because, it directly suggests the proper treatment, and that is the following:—The disease, in the outset, is usually limited to one surface of the joint, and only involves the other by the mechanical pressure and friction which its roughened surface produces. I hold in my hand the bones of a knee-joint which I exscted some time since in this disease. Now, observe that the femur would seem to have been the starting-point of the disease, and to have then implicated the bones articulating to it. On the lower surface of the inner condyle of the femur you observe a sequestrum about the size of a dime, lying loosely in its bed, but which could not leave its location and be cast off, because it was capped in and held by the concavity of the tibia on which it rested. Such being the case, the following results were inevitable:—The cartilage upon the face of the sequestrum would rapidly disintegrate and disappear, and the rough naked piece of bone bathed in pus, lifted by the granulations in its bed, would press directly upon the articular surface of the tibia. By continuing this pressure, it would rapidly cause a corresponding ulceration and disintegration of the tibial cartilages; and, when that was removed, a denuding and necrosis of a corresponding spot of the bony articular face of the tibia.

Now, look at these two bones more attentively, and you will observe, that, directly at the point where the sequestrum of the femur pressed, there is a sequestrum in the tibia, so accurately fitted, both in size and location, that the one must have rested exactly upon the other. On the anterior portion of the femoral articular face is another sequestrum, and exactly fitted upon it is another in the posterior surface of the patella. These significant points show that the disease extends from one bone to another, by the simple effect of mechanical pressure and friction of the roughened surfaces against each other; and they prove, therefore, the importance of devising apparatus to take off that pressure and prevent that friction.

The treatment of knee-joint disease is, as already intimated, identical with that of hip-disease, and mainly mechanical. I have often called your attention to the fact, that the reason why inflammations of the hip-joint do not so often recover spontaneously, like those of the shoulder, is, because the inflamed head of the femur is ground upon harshly by the weight of the body in walking. The same principle is *a fortiori* true in the knee-joint. Hence, in the treatment, the first and foremost object is to apply some apparatus which shall effectually take off the weight of the body and the tension of the muscles from the joint. Moved by these reasonings, I have been in the habit of treating the disease in question by the same splint which I use for hip-disease, and with excellent success. I was not aware that any one else had tried the same experiment until a few days since, when I learned that Dr. DAVIS, of New York, the worthy discoverer of the splint treatment for hip-disease, had also, before myself applied similar apparatus to the knee, and with even greater brilliancy of success than in the hip. I consider it thoroughly settled, therefore, that the mechanical treatment is as applicable to the knee as to the hip; and that in both the early application of a suitable splint will, generally, produce a recovery by resolution. In fact, these joints, when freed from mechanical irritation, seem as ready to recover spontaneously from attacks of inflammation as any other portion of the body. I say these things to impress upon you that

the mechanical treatment is the main agent in effecting a cure, and that you may rely thoroughly upon its efficiency; but, at the same time, I do not wish you to neglect the general health and the diathesis. The health should be steadily promoted by every influence which is adapted to increase its tone and vigor; but, especially, you should take care, all through the case, that the patient shall never, for a single day, fall into the aplastic diathesis. If he does, he will find it a day of peril, for, if he undergoes the least degree of suppuration or caries, he will lose the joint. You are aware that, in the aplastic diathesis, suppuration and caries follow very moderate inflammations, while, in the plastic condition, they might not occur for years. I advise, therefore, that the patient shall have perfectly fresh air both night and day, never on any account being allowed to lodge or reside in crowded buildings. He should use animal food freely; and, if at any time marks of aplasticity show themselves, such as weak purulent eruptions, erysipelas, or other aplastic diseases, he should be immediately put upon the use of muriated tincture of iron, 40 drops every two hours, which may be assisted by the application of muriatic or sulphuric acid baths daily to the whole body.

It is very common to see blisters and issues recommended for this disease; but, in my experience, I have been able to get little benefit from them, and I have no hesitation in saying, that they are thoroughly uncertain and unreliable. If used at all, you should take care that you do not apply them directly to the joint, but at some distance above or below. I occasionally see considerable mischief done by placing the blisters directly upon the knee. The irritation of the blister is then so close to the disease that it spreads into and aggravates it. It, therefore, ceases to be *counter*-irritant, and becomes an irritation direct.

By this combination of mechanical and constitutional treatment, most of your cases can be cured in the first stage. If, however, one is brought to you, already in the second stage, there is no remedy but amputation or resection of the carious bone. If the patient is poor, and necessitated to get about for

his subsistence as soon as possible, perhaps, amputation is the best; but, if his circumstances enable him to give six months or a year to treatment, he may undergo resection, with a view to the saving of the limb.

I perceive that our time will not permit of a discussion of the curvature of the spine to-day, I shall, therefore, reserve that subject for another lecture.

Proceedings of Societies.

THE AMERICAN MEDICAL ASSOCIATION.

The Fourteenth Annual Session of the American Medical Association convened in Bryan Hall on Tuesday, June 2. There was a full attendance, most of the States being represented.

ASSEMBLING OF THE CONVENTION.

The Convention was called to order at 11 o'clock by WILSON JEWELL, of Pennsylvania, the first Vice-President of the Association during the last three years. The remaining retiring officers occupied seats on the platform, with the exception of the President, who is deceased. The following are the gentlemen who have held office since the year 1860:—

President.—ELI IVES, Connecticut.

Vice-Presidents.—WILSON JEWELL, Pennsylvania: A. B. PALMER, Michigan; R. D. ARNOLD, Georgia; JOSEPH N. McDOWELL, Missouri.

Secretaries.—S. G. HUBBARD, Connecticut; H. A. JOHNSON, Illinois.

Treasurer.—CASPER WISTER, Pennsylvania.

Rev. R. L. COLLIER, pastor of the Wabash Avenue Methodist Episcopal Church then invoked the Divine blessing upon the deliberations of the Association.

ADDRESS OF WELCOME.

The Address of Welcome to the Delegates was made by Dr. N. S. Davis, on behalf of the physicians of the City of Chicago and the State of Illinois.

It became his pleasing duty, on behalf of the profession of medicine in Chicago, as well as Illinois, he said, to welcome them, which he did with great pleasure. This was a new city, and, as a consequence, destitute of many of those attractions to be met with in other and older cities. Yet all the institutions of the East were here in their incipiency, and were flourishing. This city has grown in thirty years from an Indian tract to a population of one hundred and forty thousand people, and to a well-organized and highly-educated community. The public schools, academy of sciences, universities, colleges, historical society, and commercial structures, all proved how rapidly Chicago has progressed. They were welcomed, however, not to these, but to the hearts and homes of the citizens,—doubly welcome on account of the three years that had elapsed since their last meeting. The interruption was made from year to year, in the hope that they would again be able to meet from all sections of the country and extend the common hand of fellowship to all their brethren. But it was necessary to retain their organization, even though their brethren did not join in the convention. Nevertheless, he did look forward to the time when they could all again assemble under one flag, with one nationality, to resume their mutual researches into the secrets of that philosophy which bore so intimate a relation to the welfare of the whole family of man.

They were doubly welcome, because their society was not based on a selfish aim,—its end was to advance the educational and scientific interest of a profession whose aim and province it is to gather all the knowledge which tends to alleviate human pain, prolong human life, and perpetuate human happiness. For this great object they had travelled thousands of miles. The prairies in this State were broad, but not more open than their hearts, and, if they failed in doing all that could be wished for their comfort, it would be on account of the crowded condition of the city. He concluded by saying, that they had gathered as friends, and he believed that their business would be transacted in harmony and peace, and that when they adjourned it would be with the feeling that it was good to be here.

They were assembled in the midst of great national excitement, but their business would be transacted thoroughly and satisfactorily, because it did not conflict with the interests of any class, —it ministered to all. In the profession they were all patriots, all lovers of their country; and if, in their deliberations, they could bring out but one fact which would tend to alleviate the sufferings of those who were fighting for their country, they would be amply repaid. He again bid them doubly welcome.

REPORT OF THE COMMITTEE OF ARRANGEMENTS.

The Report of the Committee of Arrangements was then read by Dr. Davis. It contained an allusion to the unsettled state of the country, as the reason why the Annual Meeting had been postponed for two years. The last was held in 1860, in New Haven, Connecticut. In the following year,—1861,— the session was postponed on account of the wish that both sections of the country should, as usual, be represented, and it was hoped that before the next year the war would be ended. At the time when the next meeting fell due, many of the profession were absent in the hospitals. It was decided by the New York State Association last winter that a convention should be held this year; and, whether the action was judicious or not, it was indorsed by every society so far as heard from; and every journal in the States, except one, had spoken favorably of the movement.

It had been found impossible to secure aid from the railroad corporations, as they had made mutual agreement not to grant passes to conventions, and the Canal Convention was an exception to that rule. The attendance of delegates and prominent members was large, and indicated a satisfactory and profitable meeting. He then directed the attention of the members to the cards of invitation to the evening meetings, and requested their attendance. The Report was adopted.

NAMES OF DELEGATES IN ATTENDANCE.

The Roll of Members was then called by the Secretary. The following are the names of those present:—

Vermont.—J. N. Stiles, Lewis Emmons.

Massachusetts.—Henry Cutter, Appleton Thorne, Edward Barton, James P. Lynde, Ebenezer Stone, J. P. Kendall, Benj. E. Cotting, John Homans, John C. Dalton, M. D. Southwick, E. P. Abbe, John Green.

New York.—Henry G. Davis, Guido Furman, Alden March, Daniel P. Bissel, James S. Whaley, Thomas C. Brinsmade, J. S. Sprague, C. C. F. Fay, Edward Storck, E. S. F. Arnold, E. W. Cheeney, W. N. Blakeman, Howard Townsend, H. Nicholl, E. Tobie, H. S. Downs, C. C. Wyckoff, Alf. Underhill, J. H. Griscom, L. B Cotes, Julius Homberger, C. W. Harvey, James McNaughton, Daniel Holmes.

Connecticut.—Stephen G. Hubbard, L. N. Beardsley, B. H. Catlin, A. W. Barrows.

New Jersey.—Wm. Pierson, Jr., D. M. Sayre, John Blain, Isaac S. Cramer.

Delaware.—H. F. Askew, James Couper.

Pennsylvania.—Wilson Jewell. Wm. Mayberry, Edward Wallace, B. Richardson, John R. Thomas, E. H. Mason. Wm. L. Richardson, T. N. Troth.

Virginia.—J. C. Hupp.

Ohio.—W. S. Battles, J. M. Taggart, W. W. Jones, A. H. Agard, K. G. Thomas, S. O. Almy, L. M. Lawson, W. B. Davis.

Indiana.—B. S. Woodworth, A. M. Vickery, A. J. Erwin, A. P. Ferris, L. D. Personett, James Ferris, S. A. Freeman, L. D. Glazebrook, James F. Hibbard.

Michigan.—A. B. Palmer, E. A. Egerry, H. O. Hitchcock, S. D. Richardson, Lewis Davenport.

Illinois.—E. L. Holmes, Geo. K. Amerman, Edmund Andrews, John Ten Broek, C. R. Parks, T. D. Fisher, Geo. W. Hall, David Prince, E. Andrews, N. Wright, W. O. Chamberlain, R. Rouse, E. A. Steele, A. Fisher, M. J. Johnson, J. H. Hollister, D. Pierson, M. F. Dewitt, S. Wickersham, J. P. Ross, Henry Wing, Chas. Gorham, S. W. Noble, Ira Hatch, T. F. Worrell, F. B. Haller, H. A. Johnson, R. Spitler, G. Paoli, H. Noble, D. M. Tucker, Orrin Smith, A. J. Crain, T. K. Edmiston, J. J. Lake.

Wisconsin.—Chas. L. Stoddert, H. Adams, Harmon Van Dusen, E. S. Carr, D. Wilber.

Iowa.—J. W. H. Baker, Samuel C. Lay, Jos. Sprague, D. L. McGugin.

Kansas.—D. W. Stormont, C. A. Logan.

Tennessee.—W. K. Boling.

Army and Navy.—C. C. Cox, J. Simpson, A. R. Terry, John B. Porter, Benj. Palmer, M. K. Taylor, Ralph N. Isham.

The Secretary announced that in regard to returning members of this Association to their homes, the Secretary of the Canal Convention had signified that they were at liberty to become recognised as delegates to the Canal Convention by registering their names with him.

COMMITTEE ON NOMINATIONS.

The delegates from the several States then resolved themselves into sub-committees, and appointed their representatives on the Committee for Nomination of officers, as follows:—

Vermont.—J. N. Stiles.
Massachusetts.—John Homans.
Connecticut.—L. N. Beardsley.
New York.—Jos. McNaughton.
New Jersey.—John Blain.
Delaware.—H. F. Askew.
Ohio.—W. S. Battles.
Indiana.—James F. Hibbard.
Pennsylvania.—Wm. Mayberry.
Michigan.—H. O. Hitchcock.
Kansas.—D. W. Stormont.
Virginia.—John C. Hupp.
Iowa.—J. H. W. Baker.
Wisconsin.—H. Van Dusen.
Illinois.—H. Noble.
Tennessee.—W. K. Boling.
Maryland.—Dr. Cox.
The Army.—Joshua Simmons.

VALEDICTORY ADDRESS BY THE ACTING-PRESIDENT.

Dr. Wilson Jewell, Acting-President of the Association, then delivered his Valedictory Address. Since their last meeting, he remarked, the most tremendous events had transpired; the country had been plunged into civil war, and the best government that ever existed on the face of the earth had trembled as on the brink of dissolution. It was not strange if the troublous element had found its way into their counsels, yet he had hope still that the present struggle would be gloriously ended by a restoration of the Union. The cause was based on the eternal principles of civil and religious liberty, and could not fail.

The speaker then turned to the subject which was most intimately connected with the objects of the Convention, and spoke of the noble part taken in the struggle by the devoted members of the professson, who, amid the thunders of battle and the din of arms, worked firm and self-possessed to mitigate the horrors of the strife, and risked being killed or taken prisoners of war rather than desert the path of duty. Theirs' was no warrior's ambition; they were stimulated by no wish, save that of alleviating human suffering. Many of their members were in the army, and some slept the sleep of death. First, and highly valued among them, was their respected President, Eli Ives, whose knowledge and experience had rendered him so valuable a medical practitioner, and whose private virtues endeared him to all. The future usefulness of the Association was one of the great aims of their late President, and he predicted great things of its future.

The orator then took a retrospective view of the progress of the Association, and spoke of the signs, in the present condition and standing, which point to a bright and influential future. He quoted passages from many eminent medical men, in which the future of the Association was spoken of and hints for improvement given. He would, however, direct their attention to another subject, not that he loved Cæsar less, but Rome more. He would speak of Hygiene, a science which bears no modern date, but claims its origin in the antedelluvian age, is

now so little understood, and presents an illimitable field for research. The fearful responsibilities of their calling should stimulate them to a thorough course of study in all that pertains to the preservation of health, the extension of the term of existence, and the alleviation of disease where prevention rendered impossible. There was room to hope that the American Medical Association would throw out a light, which, in the medical world, would equal the refulgence of that bright ray which shone out from the retreat of the Wittenburg student and dissipated the darkness which until then brooded over the theological firmament. Yet this illustration could ensue only upon a careful study of the laws of Hygiene. Not that the subject was incompatible with the design of the Association; it had done great service in that department, and time would fail to tell the aid rendered by it in the past. But the vestibule of the Hygienic temple alone had as yet been attained. The method of curing disease had, heretofore, attracted not too much of attention, but it had, perhaps, thrown into the background those sanitary considerations which will teach how to prevent disease by conformity to the laws of health. This was a reform much needed, but there seemed to be a perpetual obstruction presented to its progress, and a private prejudice in the popular mind against it. He would propose a two-fold method whereby the evil might be remedied. It was to elevate Hygiene as a branch of scientific study, and give it a distinct chair in the medical colleges. He would constitute it as a cirriculum of study which was essential to the reception of a diploma. He counseled also the adoption of some more popular and successful plan than had otherwise been pursued, for enlightening the public mind on the relations of preventive measures to the health of the people. The etiology of disease was the basis of the science of preventive medicine. This being better understood than formerly, and one of the good fruits springing out of the present struggle would be the elimination of a multitude of facts bearing on the relations of military discipline to military health, and the consequent efficiency of the soldier. These facts were of incalculable value, and would exercise a largely beneficial

influence upon the health of future ages. Already a work of this kind had been authorized by the general government, which will contain an elaborate classification of military diseases and the influence of hygienic regulations thereupon. The time was, probably, not far distant when each State would have its bureau of health, and recognize the indissoluable relation existing between sanitary conditions and moral developments, as well as on the physical organism. Already two cities of the Union had taken vigorous action in this matter, and the Garden City might well claim the credit of having set the example of aiming to insure civic healthfulness. He recommended that the word "Hygiene" should be written in letters of gold on the escutcheon of the Association.

On motion of Dr. Sprague, of New York, the thanks of the Convention were given to the retiring President for his able, eloquent, patriotic, and scientific address, and a copy was requested for publication.

CANDIDATES FOR PERMANENT MEMBERSHIP.

The Committee of Arrangements then reported the following as names of gentlemen who were candidates for permanent membership, and recommended their admission:—

Walter Hay, Thomas Bevan, John McAllister, John Bartlett, M. O. Heydock, Niel P. Peterson, R. C. Hamill, H. N. Hurlbut, .V L. Hurlbut, and H. Webster Jones, of Chicago; E. C. Lardner, of Vermont; S. W. Bicknell, Beloit; E. W. Jenks, of Sturges; Henry Durham, LaSalle: Silas Earle, Onarga; and W. W. Sedgewick, of Sandwich. The candidates were unanimously elected.

The following were then elected as members by invitation:—

A. L. Merriam, Sandwich, Ill.; L. D. Glazebrook, St. Pierre, Ind.

The President then appointed Drs. Pearson, Beardsley, and Cutler to draft resolutions expressive of the sense of the Association respecting the death of the late President.

The Convention then adjourned till 3 o'clock.

AFTERNOON SESSION.

The Convention reassembled at 3 o'clock, and the Committee on Nominations was called to make their Report. They recommended the following

FOR OFFICERS:—

President.—Dr. ALDEN MARCH, of New York.

Vice-Presidents.—Drs. JAMES COUPER, of Delaware; DAVID PRINCE, of Illinois; C. C. COX, of Maryland; and E. S. CARR, of Wisconsin.

Secretaries.—[Not to be appointed until the place of the next meeting is known.]

Treasurer.—Dr. CASPAR WISTAR, of Philadelphia.

REPORT OF THE TREASURER.

The Report of the Treasurer was read by Dr. Askew, of Delaware, the Treasurer being unable to attend. He reported that, owing to the unsettled state of the country and the advanced price of printing, it would be necessary to print only such papers as were of great value, and to condense those as much as possible, or the treasury could not bear the cost. The proceeds of volumes sold were $1,082 25. Balance on hand last year, $597 61; balance on hand this year, $504 21. The Report was adopted.

The Committee on Publication reported the result of their labors during the year, and the number of volumes now in their possession. The Report was accepted.

AN UNUSUAL CASE.

Dr. Griscom, of New York, reported a very interesting case of diarrhœa adiposa which occurred in the New York Hospital, under his notice: it was cured by the free use of whiskey and porter, but, on being placed in the House of Detention, and thus debarred from its use, the symptoms returned. The speaker said that the case was a very unusual one, not more than twenty-six cases having ever been reported. He considered that the commonly received opinion, that abnormal acretions of oleaginous substance arose from pancreatic secretion was unfounded.

REPORT ON PRIZE ESSAYS.

The Report of the Committee on Prize Essays was read by Dr. D. L. McGugin, of Iowa. He reported that only one essay had been received, which is worthy of the prize medal. It is an inquiry into the properties and physiological uses of Veratrum Viride, with notices of its alkaloid, Veratria, as derived by certain processes. He considered the essay as worthy of publication and of the prize.

Dr. Lawson moved that the prize be awarded to the author, and the paper forwarded to the Committee on Publication.

Dr. Cox moved that the essay be referred to a special committee, of which Dr. McGugin shall be chairman, and read the essay, and report at some future time.

The motion of Dr. Lawson prevailed, and the name of the author was then announced.—Samuel R. Percy, M.D., Professor of *Materia Medica* and Therapeutics in the New York Medical College. The announcement was received with cheers. The prize is one hundred dollars.

The Report of the Committee on Nominations was made and accepted. The nominations were accepted, and the gentlemen were conducted to their places on the platform by a delegation of two to each appointed by the Chairman. The newly-inducted President briefly returned thanks for the honor conferred.

REPORTS OF SPECIAL COMMITTEES.

Reports of Special Committees were then called for. A communication was received by Dr. Davis from Dr. E. R. Squibbs, of New York, Chairman of the Committee on "the practical workings of the United States Law relating to the inspection of drugs and medicines," stating that he could not attend, and offering to report next year. Agreed to.

Several other gentlemen presented in person the request to be allowed to continue, with the same result.

Dr. A. K. Gardner, of New York, presented a paper on the use and abuse of pessaries, but the reading was postponed till this morning.

No changes were made in any of the committees, and they were all continued for another year.

THE HUNTER MEMORIAL.

The Committee on the Hunter Memorial reported that the sum of $357 had been raised, in one dollar subscriptions, towards the Hunter fund, a portion of which had been forwarded to London. The smallness of the contribution was imputed mainly to the fact that the monument would stand on British soil, and the indifference felt by England about the present national trial had checked the enthusiasm. The Report was contained in a letter from Dr. Bowditch, which was received and placed on file. It was also decided that the account be closed and the balance retained by Dr. Bowditch.

NEW MEMBERS.

The Committee of Arrangements proposed the following gentlemen to be elected as permanent members:—

Drs. Daniel B. Brengle, Manchester; Van Courtland Secord, Galena; J. B. Samuel, Carrolton; David Dodge, Chicago; James S. King, Lemont; D. F. Crouse, Mount Carroll; all of Illinois. The nominations were confirmed.

THE USE OF MERCURY BY THE ARMY-SURGEONS.

Dr. Lawson called attention to the recent order of the Surgeon-General prohibiting the use of mercurials and tartarized antimony by the army Surgical Corps. He moved that the Society express its disapprobation of the order. The subject was referred to a committee, with instructions to inquire into the facts and report, the committee to consist of one member from each State.

MEDICAL PROVISION FOR RAILROAD ACCIDENTS.

Remarks were then made by Dr. Arnold, of New York, on the necessity of making medical provision for railroad accidents. He distributed printed copies of papers read by him before the State Medical Society and the Academy of Medicine, both of New York.

ARMY-SURGEONS.

Dr. Cox called attention to the want of a recognition of Army-Surgeons, and urged that relative rank should be accorded to them. At present it was not possible for a Surgeon to rise

above the rank of Major. He, therefore, offered the following Resolutions:—

Resolved, That a Committee of five be appointed by the chair to draft a memorial to Congress asking the enactment of a law by which Surgeons in the service of the United States Army may be accorded relative rank in the same.

Resolved, That each medical gentleman present be urgently invited to use every proper influence with the Members of Congress from his respective district, to urge the passage of a law, favorable to the object, at the ensuing session of Congress.

The resolutions were seconded by Dr. McGugin in an able speech, in which he reviewed the relative responsibilities of the Surgeon and Commander, and spoke of the injustice perpetrated in the case of the former. The resolutions were discussed by several other delegates, and were, finally, adopted.

The Convention then adjourned till 9 o'clock A.M.

WEDNESDAY MORNING SESSION.

The Minutes of the previous sessions were read and approved.

A large number of additional members from several States were announced as having arrived and registered their names as delegates, including a large number of the physicians and surgeons of this city.

The following gentlemen were admitted as members of the Association, by invitation:—

Dr. J. H. Foster, Libertyville, Ill.; W. G. Millar, Rockford, Ill.; J. A. Brown, Kankakee City, Ill.

The following permanent members of the Association were elected:—

Tiffin Sinks, Leavenworth, Kansas; W. C. Hall, Fayetteville, O.; Hiram Wanzer, Chicago, Ill.; H. K. Dean, Maunkport, Ind.; H. C. Robbins, Newark, Ill.; E. J. Duffield, Woodstock, Ill.; W. Jaynes, Yankton, Dakota Ter.; C. M. Clark, Galva, Ill.

The Reports of Committees being in order, on motion, that

of the Committee on Medical Education was postponed until the afternoon session.

The Committee on Appointments made their report, which, on motion, was accepted. Pending its adoption, it proposing Baltimore, Maryland, as the next place of meeting, considerable discussion arose, various members proposing different places. The member from Maryland advocated the feasibility of appointing the next meeting at Baltimore, as a national measure. It is for the interest of the Association and the country to hold the meeting *as far South as possible.* The effect of holding it at Baltimore would be a healthy one upon that city and its medical interests. Men of wealth and influence would open their doors and extend warm hospitality to the members of the Association. The question finally resolving itself into a choice between Baltimore and New York City, the latter was unanimously voted for as the place for holding the next meeting.

The balance of the Report, concerning the officers of the next meeting, committees, etc., was referred back to the Committee for reconstruction, rendered necessary by the substitution of New York for Baltimore.

On motion, a committee, consisting of one member from each State, was appointed to investigate and report upon the present and a better ambulance system in the Army of the United States.

A resolution of thanks to Dr. Wilson Jewell, late Acting-President, for the able and dignified manner in which he has presided over the deliberations of the Association was unanimously adopted.

A resolution, requiring the appointment of a committee to urge the compulsory vaccination of every person in the United States, was referred to the Section on Hygiene.

The Report of Dr. A. K. Gardner, of New York, regarding the use and abuse of pessaries, the reading of which was yesterday postponed until this morning, was called up, as next in order, and, on motion, the reading of it postponed until next year.

The Committee appointed to prepare suitable resolutions

appropriate to the loss of the Association by the death of its late President, the late Dr. Eli Ives, of Connecticut, made their Report, which, after a slight amendment, was adopted.

The Committee on Voluntary Communications presented an abstract of a paper by Dr. Andrews, of Chicago, on "Diathesis, —their surgical relations," which was read by the author. Approved, and referred to the Committee of Publication.

This paper of Dr. Andrews called up Dr. Hibbard, of Indiana, who combatted, in a rather lengthy speech, some of the principal features presented.

Dr. Andrews replied, in support of his arguments and statements, developing, from his experience, the truth of the position which he assumed.

Other members participated in the discussion.

The meetings of Sections having been abolished, the President appointed as the Committee on Compulsory Vaccination, which had previously been referred to the Section on Hygiene, Drs. Hibbard, of Indiana, Jewell, of Pennsylvania, and Griscom, of New York.

The meeting then adjourned until afternoon.

AFTERNOON SESSION.

According to a resolution passed this morning, Dr. D. J. Macgowan, of New York, from China and Japan, was invited to address the Association. He explained to the meeting the professional bearings of his proposed scientific and industrial expedition to the unknown parts of Eastern Asia. Investigation in relation to the history of epidemics, in the *Materia Medica*, and into the ethnology of those lands, cannot fail to elicit many facts which promise to be of incalculable value to medicine and the collateral sciences. Dr. M. further expressed a hope that the Association would take some measures to induce the Haytien Government to undertake the acclimatization of Cinchona trees, (quinine plants.) He gave an account of the success of the Dutch in Java, and of the English in India, and fully believes that in St. Domingo these invaluable plants might be readily cultivated, and thus secure additional supplies of this great remedy in fevers.

Dr. Macgowan has been in correspondence with the Haytien Ambassador in Washington on the subject, and solicits the influence of the profession in urging the institution of the necessary experiments in those portions of America, north of the equator where the soil and climate seem to afford sufficient encouragement.

In the course of his remarks, the speaker gave an account of the standing of the medical profession in China and Japan, of their medical literature, &c., also stated the remarkable fact that they had made many discoveries in the use of remedies for certain diseases, in some cases either actually the same or very similar to those discovered and used here.

The Chairman of the Committee of Arrangements announced the following names of physicians who were elected permanent members:—

J. B. Buchtell, South Bend, Ind.; C. Truesdale, Rock Island, Illinois; L. F. Warner, and M. Parker, of Chicago. Drs. L. T. Hewins, Oak Alla, Wis., and C. J. Taggart, Beloit, were elected members by invitation.

Dr. C. C. Cox, from the Committee on Medical Education, read an able scientific paper on the subject, reviewing the past history of the profession in this respect, and the absence of proper attention to the subject. Many valuable suggestions, as to needed improvements, were also made. After the rendering of this Report, the Committee submitted the following resolutions, which, after discussion, were adopted:—

Resolved, That a preliminary education in English, Latin, Mathematics, and Physics, constitute an essential pre-requisite to the admission of a student of medicine into the office of a medical preceptor, or as a matriculant of a respectable medical college.

Resolved, That the advancement of medical education demands a more extended and symmetrical course of instruction in the colleges, and a more thorough and impartial examination for the degree of Doctor of Medicine than at present prevails.

Resolved, That Medical Jurisprudence and Hygiene are

highly important branches of Medical Science, deserving the careful consideration of all medical teachers and schools.

Resolved, That societies for medical improvement,—State, district, and county,—are important auxiliaries to the advancement and promotion of science, and are, therefore, highly recommended by this body, as valuable levers in the cause of medical education.

The Committee appointed to make a report upon the recent order of the Surgeon-General, prohibiting the use of mercurials and tartarized antimony by the Army Surgical Corps, made a majority report through Dr. Lawson, of Cincinnati, and an entirely antagonistic minority report by Dr. Woodworth, of Indiana. The former strongly favored the use of these remedial agents in the Army, and the latter as strongly discountenanced their use there. Each report was backed by resolutions rigidly endorsing the language of the report; after an animated discussion, the Association adjourned.

THURSDAY MORNING SESSION.

The Association convened at 9 o'clock. After a partial reading of the minutes, the further reading was dispensed with.

The following gentlemen were admitted members by invitation:—

Isaac Snyder, Jackson, Mich.; R. B. Treat, Janesville, Wis.

The following were admitted as permanent members:—

Granville S. Thomas, Joliet, Ill.; J. S. Pashley, Osceola, Ill.

Dr. Cox, of the army, announced the sudden departure of Dr. Wilson Jewell, of Pennsylvania, caused by receiving intelligence of the unexpected death of a son, and offered a resolution of condolence, which was adopted.

Regular business being in order, the reports of Committees were taken up.

Dr. Gilbert, of the army, in behalf of the Committee on the extinction of the Aboriginal Races, reported progress; and, on motion, the Committee was continued another year.

The President having announced that the order of the Surgeon-General, U. S. A., debarring calomel and tartar emetic from the use of army-surgeons, and which was previously referred to a Committee, was in order; by consent of the Association the Committee on the subject offered a substitute for the resolutions introduced yesterday.

Pending the discussion, previous to the vote. Dr. Cox, of the army, said, substantially as follows:—

While the Association had the right to protest against the order of the Surgeon-General, he wished it to remember that the order referred, exclusively, to the corps of army-surgeons under his control, and had no reference to the use of those drugs in private practice. The order originated in the abuse of Calomel by a number of incompetent surgeons in the army, appointed by the Governors of the several States, who consider the *liver* the pack-horse of the human system. The Medical Bureau of the United States comprises men of science, who understand how far the evil has been perpetuated and the necessity of correcting its abuses. The fact that other mercurials have not been interfered with, shows how great the necessity that exists for an order so apparently sweeping, and which the Association deems so arbitrary.

He did not desire to protract the debate, but felt it due his position to say something before the final vote should be taken. He was not up either to defend or condemn the order. In a long practice he had seen the abuse of calomel in improper hands, as well as its benefits from its legitimate and judicious use. He wished a discrimination to be made between the propriety of the order and the motives of the Surgeon-General. That gentleman's high character and motives are not to be questioned in this or any other public body. He deserved the thanks of the profession for the wholesome interest he had taken in the subject.

Dr. Cox's position called up several members in reply. Calomel had fallen under the ban of an "unwise, unnecessary, and unprofessional order," and that order received animadversion, ridicule, and unstinted opposition. The discussion became

general, and while some desired to place no obstacles in the field, their opinion of the order was of a character that culminated in the following resolutions, which were adopted:—

Resolved, 1.—That this Association condemn, as unwise and unnecessary, the circular of the Surgeon-General prohibiting the further supply of Calomel and Tartar Emetic for use in the Army; and that we regard such an order as an indignity to the military surgeons, while it is in direct opposition to the opinions of the regular profession of medicine.

Resolved, 2.—That the withholding ordinary medicines from the army-surgeons implies a want of confidence in their skill as a body, which, if true, calls for the prompt interposition of the proper authorities; but if the imputation of a want of skill is unfounded, as we believe it is, the refusal to supply proper medicines is wholly unjustifiable.

Resolved, 3.—That Circular No. 6 being impolitic and prejudicial to the interests of the service, it is the decided sense of this Association, that a due regard for the welfare of the Army requires, and we do, therefore, earnestly recommend, the recision of that Circular, and the substitution of the more just and philosophical method of correcting abuses, if any exist, by holding each surgeon, individually, responsible for the proper discharge of his appropriate duties.

The entire report, giving a history and details of the subject, in the same spirit, was also adopted.

On motion, it was resolved that a copy of the above resolutions be forwarded to the President of the United States, the Surgeon-General, of the United States Army, and the Secretary of War.

The Nominating Committee reported back the following officers of the Association for the present year:—

Secretaries.—Dr. H. A. Johnson, Ill.; Dr. Guido Furman, N. Y.

Committee of Arrangements.—Drs. James Anderson, N. Blakeman, T. M. Markœ, T. C. Finnell, Austin Flint, Jr., E. S. F. Arnold, J. H. Griscom.

Committee on *Prize Essays.*—Drs. D. F. Condie, Pa.; E. Wallace, Pa.; Wilson Jewell, Pa.; E. R. Peaslee, N. Y.; Alfred Stille, Pa.

Committee on *Medical Education.*—Drs. J. C. Dalton, N. Y.; M. L. Linton, Me.; John Frissell, Va.; Howard Townsend, N. Y.; W. H. Byford, Ill.

Committee on *Medical Literature.*—Drs. L. M. Lawson, Ohio; D. L. McGugin, Iowa; William Mayberry, Pa.; H. Noble, Ill.; John Homans, Mass.

Committee on *Publication.*—Drs. F. G. Smith, Chairman, Pa.; Caspar Wistar, Pa.; Ed. Hartshorne, Pa.; H. F. Askew, Del.; S. G. Hubbard, Conn.; H. A. Johnson, Ill.; Guido Furman, N. Y.

Committee on *Insanity.*—Drs. Ralph Hill, Ohio; C. H. Nichols, D. C.; D. P. Bissell, N. Y.; S. W. Butler, Pa.; John S. Butler, Conn.

Dr. H. G. Davis commenced reading a paper on "The American Method of Treating Joint Diseases and Deformities," which was referred to the Committee of Publication, and its further reading suspended.

Dr. Hamberger read a paper upon the use of the laryngiscope, exhibiting the instruments, and another upon a case of disappearance of the iris behind the lens. Referred to Committee of Publication.

The paper of Dr. Griscom, on a case of diarrhœa adiposa, read on Thursday afternoon, was, on motion of Dr. Furman, referred to the Committee of Publication.

Dr. A. Fisher read a paper on the use of the Sulphites of Lime and Soda in the treatment of hospital gangrene, phlebitis, erysipelas, and other pyæmic diseases. On motion, the paper was referred to a committee of three, of which the author is chairman, to continue his investigations, and report next year.

Dr. Cox, of the Army, offered two resolutions,—one of thanks to the Citizens of Chicago, for their kindness and hospitality shown to the members of the Association during its sessions here, and another of thanks to the retiring Secretary, Dr. Hosmer, for his able and faithful services.

The Amendments to the Constitution of the Association, proposed at the last meeting, were called up, discussed, and rejected.

A complimentary resolution, thanking the President and Secretary for their services, was adopted.

The following gentlemen, on motion of the Committee of Arrangements, were elected permanent members of the Association:—

L. H. Cary, Toledo, Iowa: Horatio Hitchcock, Chicago; L. F. Warner, Chicago: L. P. Cheney, Chicago: C. W. Shumway, Chicago.

Adjourned till 3 P.M.

AFTERNOON SESSION

The Convention assembled and was called to order by the President, at 3 o'clock. The minutes of the morning session were read and approved.

A letter was read from Dr. Russell, of Mt. Vernon, Ohio, asking to be excused from further service on a special committee. On motion, he was excused. A similar communication was also read from Prof. Sager, of Michigan, and disposed of in the same manner.

Dr. N. S. Davis offered an amendment to the Constitution, providing for the appointment of one permanent Secretary. Under the rules, the amendment lays over one year.

The Committee on Nominations reported the appointment of numerous gentlemen to act upon various matters that might come before the next annual meeting.

The following resolution was offered by Dr. Arnold, and passed:—

WHEREAS, The railroad is fast becoming the great medium of land travel in all parts of the world; and, whereas, in spite of all regulations and care, serious accidents are continually occurring, attended with loss of life, such being greatly augmented by the total want of any local medical provision to meet such, as well as by the absence of any appliances whatever, calculated to strengthen the hands of the surgeon; therefore, be it

Resolved, That such medical provision shall be made by the railroads; and that by the diminution of suffering, as well as by the saving of life, while economy will accure to the railroad companies, and the interests of humanity greatly served.

A lengthy memorial was received and read from the Special Committee appointed to address Congress in relation to the rank and pay of army-surgeons. On motion, the Report was accepted and adopted.

On motion, the Secretary was instructed to have the Memorial printed, and to send copies of the same to public officers at Washington.

After some further proceedings of an informal nature, the Convention adjourned.

ESCULAPIAN SOCIETY.

Abstract of the proceedings of the Esculapian Society of Wabash Valley.

The Society met at Marshall, Ill., May 27th, 1863. Dr. CHARLES JOHNSTON was called to the chair.

Present, Drs. J. M. STEELE, F. R. PAYNE, JOHNSTON, GORHAM, HOLMES, RINGLAND, and MITCHELL.

Drs. E. A. STEELE, J. A. PATTON, and R. F. WILLIAMS were elected members of the Society.

Dr. F. R. PAYNE read a short paper on the nature and treatment of corns. He urgently recommended the use of pure nitric acid as a reliable remedy for all varieties of corns and bunions. He does not scrape the corn, but applies the acid directly to the diseased surface every four or five days. It produces no pain, and gives almost instant relief.

Dr. MITCHELL requested an expression of the members in relation to the nature and treatment of granular conjunctivitis. He believed it to be an idiopathic disease, caused by miasmatic influence acting on persons pre-disposed to scrofula. The granulations first appear, and, by their irritating influence, inflammation is produced and thickening of the membranes.

resulting in opacity of the cornea. He learned from Dr. Gross, while he was a resident of Louisville, that the most of his cases of this disease came from Wabash Valley.

Dr. Steele remarked, that the physicians in the country could not treat cases of sore eyes with the same success as oculists, who make it a specialty, from the fact that patients are not constantly under their control and remedies could not be repeated as often as they should be. He believed that granulations were the result of inflammation. He had but little, in the treatment of the disease, but favored the use of anodyne and emollient applications as the main remedies.

Dr. Payne remarked, that the disease was one that had perplexed him for years. It was his opinion that the enlargement of the mucous follicles was the result of some grade of inflammation (either acute, sub-acute, or chronic,) of the conjunctiva. The irritation caused by these enlarged follicles produces inflammation of the cornea, thickening of its coats, and loss of sight. He believed, with Dr. Mitchell, that this was more prevalent in miasmatic districts. He *had* treated the disease by cauterization and the knife for some years, but not with satisfactory results. His only treatment now was the use of a lotion composed of

Rose water, ...℥j.
Iodide of zinc,.....g. ij. to vj.

applied freely to the ball of the eye every morning, and, during the balance of the day, he employs the following mixture:—

Rose water,.....℥j.
Morphine,.....
Sulph. zinc,.....āā. gr. x.

applied frequently to the closed lids.

Dr. Ringland thought these granulations to be, generally, the result of severe and protracted inflammation. In some cases, especially where there are evidences of a scrofulous diathesis, very little inflammation precedes their formation.

In the great majority of cases, he thought very little benefit was to be derived from the use of strong caustics applied to the

interior of the lids. He much preferred mild astringent and anodyne lotions, similar to those employed by Dr. PAYNE. If the irritation can be allayed, it will do much toward enabling nature to rid the parts of disease. Constitutional treatment should be employed where any unhealthy condition of system requires it; but it is often a purely local disease.

Dr. GORHAM said, he had but a limited experience in the treatment of this disease. His favorite remedy was

Rose water,.....5j.
Sulph. zinc, ...grs. ij. to vj.
Morphine, ...v.

applied freely to the eye by means of a wide-mouthed bottle, (a morphine bottle answers the purpose very well). He instructs the patient to open and close the lids several times during the application, that the lotion may reach the whole of the diseased parts. In common inflammation of the eye, he had great faith in a solution of tartaric acid (v. to x. grs. to the oz.,) as a remedy. He deprecated the use of strong caustics to the eye.

Dr. J. M. STEELE had never treated a case of this disease. It does not prevail in his locality, so far as he knows. He has treated many cases of acute inflammation of the eye, which he generally arrested in a short time by free purgation with sub. mur. hyd., cupping the temples, and cold emollient applications. After the cathartic operates freely, he gives from twenty to thirty grains of quinine, divided into doses of three or four grains each. After the acute stage has passed, he uses a solution of acet. plumb. and opium.

Dr. Johnson had treated many cases of ophthalmia successfully, but his treatment of the granular disease was very unsatisfactory. His remedies were very simple. In the early stages, he required his patients to strictly observe a supine position; and he employed cold applications to the eye when the patient would bear them, otherwise, they should be warm. After the inflammation is somewhat reduced and there is a secretion of pus, he applies a solution of nit. arg. of a strength suited to the case. When an astringent is required, he prefers and infusion of cinchona and tannin.

Dr. HOLMES called for an expression of opinion in relation to the best method of treating puerperal peritonitis. Many cases had come under his care, and he was not satisfied with the result of his treatment.

Dr. J. M. STEELE was very confident his treatment of that disease was right, as it was so uniformly successful in curing his patients. He has treated many cases of it. After free purgation with sub. mur. hyd., with oil and turpentine at the onset of an attack, he mainly relied on the use of opium. In miasmatic regions, he would combine quinine with it for several days, in sufficient quantity to destroy the malarious influence; and, where a low typhoid grade of fever follows, he would continue it as a stimulant. If the tongue was dry and the secretions scanty, he adds to the opium three to six grains of sub. mur. hyd. daily. He moves the bowels every day with a mixture of two parts castor oil and one of turpentine, without stopping the opium. Large emollient poultices should be applied so as to cover the whole surface of the abdomen.

Dr. RINGLAND generally prescribed a mercurial cathartic at the commencement of an attack of this disease. His principal reliance was on opium. He gives it in sufficient quantity to produce a decided sedative impression. Where the patient is under miasmatic influence, he would combine quinine in moderately full doses for a day or two. He has frequently observed a decided improvement take place immediately after the operation of a second mercurial cathartic, administered after the continuous use of the opium for a few days. Warm emollient poultices are valuable adjuvants to the other treatment.

Dr. PAYNE had not treated a great number of cases of this disease. He agreed with Dr. STEELE. It was always his aim, after free purgation, to bring the patient under the influence of opium, and keep it up until the disease was arrested. If the pulse is not over 130, he feels confident this treatment will save the patient. He uses turpentine freely, both internally and externally. He prefers, for a poultice, the polygonum hydropiper, applied over the seat of pain.

Dr. J. M. STEELE inquired, whether any of the members had

used the Bromine mixture in the treatment of erysipelas. No one had used it, but each gave his favorite treatment in this disease. Dr. PAYNE relied, principally, on the alcoholic tincture of iodine, locally, and the mur. tinct. iron, internally. Dr. J. M. STEELE'S favorite local remedy was the mur. tinct. iron. Dr. JOHNSON preferred a mixture of ung. hyd. one part, and lard three parts, applied to the diseased surface, covered with a heavy coat of very finely powdered starch,—much as he would treat a burn. Dr. MITCHELL considered the carb. lead or common white paint, the best local application.

The value of some new remedies were discussed. Dr. J. M. STEELE urged the members to give Bromine a fair trial in erysipelas.

Dr. PAYNE recommended tinct. arnica as a valuable new remedy in all bruises and sprains,—applied locally. He had employed tinct. aconite in many cases of neuralgia, and he regarded it as a good local remedy in that disease.

The Society adjourned; to meet at Grandview the last Wednesday of October.

GEORGE RINGLAND, *Secretary pro. tem.*

Book Notices.

CHEMISTRY: By WILLIAM THOMAS BRANDE, D.C.L., F.R.S.L. & E. of Her Majesty's Mint, Member of the Senate of the University of London, and Honorary-Professor of Chemistry in the Royal Institution of Great Britain: and ALFRED SWAINE TAYLOR, M.D., F.R.S., Fellow of the Royal College of Physicians of London, and Professor of Chemistry and Medical Jurisprudence in Guy's Hospital. PHILADELPHIA: BLANCHARD & LEA. 1863.

This is a full-sized octavo volume of 696 pages, closely printed, but in fair type. From the hasty examination we have been able to give it, we think it will be found to be one of the best text-books for students that have been published, and also a good work for reference for the general practitioner. The following, from the preface, will give an idea of the general character of the work:—

"In addition to the general properties of bodies, we have, attached to the description of each substance, a summary of its most important characters, with an account of the special tests required for its detection. The student will thus have in this book a manual of practical chemistry. As an adjuvant to this branch of the science, the subject of practical toxicology has been introduced in reference to the most important *poisons*, and the processes for their detection. We have also treated, as fully as our space would permit, the chemical principles on which *photography* is based, and have given some practical rules for the guidance of those who wish to apply their chemical knowledge to this interesting art."

For sale by W. B. Keen & Co., Booksellers in this city.

Diseases of the Skin: By Erasmus Wilson, F.R.S. Fifth American, from the fifth and revised London edition, with plates and illustrations on wood. Philadelphia: Blanchard & Lea. 1863.

This is a new edition of a well-known work, which has been before the profession for twenty years. It is worthy of the careful study of every student, and will be found profitable in the library of every practitioner.

In this edition, the American publishers have very properly added to the plates those prepared by Mr. Wilson, to illustrate his work on "Constitutional Syphilis and Syphilitic Eruptions." The volume contains 694 pages and is published in a good style.

For sale by W. B. Keen & Co., Booksellers, Chicago.

Obstetrics: The Science and Art. By Charles D. Meigs, M.D., lately Professor of Midwifery and the Diseases of Women and Children in Jefferson Medical College at Philadelphia, &c., &c., &c., &c.

Fourth edition revised, with 129 illustrations. Philadelphia: Blanchard & Lea. 1863.

The high and well-earned reputation of Dr. Meigs, together with the well-known character of his work on *obstetrics*, renders it unnecessary for us to enter upon any details in regard to the present edition. It is issued in the very best style of the pub-

lishing art; and is eminently worthy of the study of every student and practitioner of midwifery.

For sale by W. B. Keen & Co., Booksellers, Chicago.

Transactions of the Medical Association of Southern Central New York, at the 12th, 13th, 14th, and 15th Annual Meetings, held in 1858, '59, '60, and '61. Binghamton: Wm. S. Lawyer, Printer, 1863.

This is a pamphlet of 80 pages, neatly printed on fair paper. It contains the record of proceedings of four Annual Meetings of the Society, and several of the more interesting and directly practical papers read at the several meetings. We regret that the funds in the treasury did not permit the publication of all the papers and addresses which have been read to the Society. What has been selected, however, is of practical value, and will be read with interest.

Amaurosis and Smoking.—At the Royal London Ophthalmic Hospital, a severe case of amaurosis was lately presented, evidently brought on by the immoderate smoking of tobacco. Examined with the ophthalmoscope, both optic nerve disks were found partially atrophied; the apparent inner half of each white, the outer red and hyperæmic. Mr. Wordsworth pointed out the case to the class as one of "tobacco amaurosis," of which he had lately seen several in excessive smokers, with similar symptoms. This form of amaurosis he considered quite incurable.—*Boston Med. & Surg. Journal.*

Calomel and Tartar Emetic.—At a meeting of the regular medical profession of Cincinnati, called to consider the late Circular No. 6 of the Surgeon-General of the United States, in reference to the use of calomel and tartar emetic in the Army, a committee was appointed to report the sense of the profession on the subject. At a subsequent meeting, the committee reported, denying the truth of the statements on which the Surgeon-General's order was founded, charging him with the assumption of powers not belonging to his office, and ending with a resolution that his removal therefrom would meet the approbation of the profession, be of advantage to our soldiers, and creditable to the Government.—*Ibid.*

Editorial.

AMERICAN MEDICAL ASSOCIATION.

Notwithstanding the timidity of some, the open opposition and misrepresentations of others, and the disturbing influences of civil war, the recent meeting of the Association in this city was eminently successful. More than two hundred members were present, representing seventeen States and Territories; and among them some of the most eminent of the profession. As will be seen by the Record of Proceedings, contained in the present number of the *Examiner*, the attention of members was wholly absorbed with the proper business of the Association. Not a word or an act of a sectional or political character disturbed its deliberations; and no one deemed the *patriotism* of its members sufficiently *questionable* to require the adoption of special resolutions to bolster it up, or herald it to the world.

The great lack of reports from Special Committees was very well supplied by the voluntary communications of Drs. J. H. Griscom, H. G. Davis, and J. Homberger, of New York; and Drs. E. Andrews and A. Fisher, of Chicago. The two last-mentioned papers led to some interesting and profitable discussion, in which several members of the Association participated. There was a well-written and interesting Report from the Standing Committee, on Medical Education, by Dr. C. C. Cox, of Maryland. It was listened to with attention; and the resolutions appended to it, after a slight amendment, were adopted. The topic which elicited most discussion was the Surgeon-General's order, excluding calomel and tartarized antimony from the supply-table for the Medical Department of the Army. This topic, after receiving the careful consideration of a large committee, elicited an animated, though courteous and candid, discussion. The resolutions condemning the order and asking for its recision or withdrawal were passed, with but few dissenting voices. Our views on this subject are given in another page of this *Journal*. But no part of the doings of the recent meeting of the Associ-

ation afforded us, personally, as much satisfaction as the selection of officers for the ensuing year. It is well known that the Association, at an early period of its history, undesignedly adopted the *custom* of selecting the president from the place where the annual meeting was held. This custom, once established, as completely restricted the selection of candidates for the highest honors of the Association to the profession of a few large cities, as though all the rest were excluded by positive constitutional provisions. A custom so contrary to the national character of the organization, and so unjust to the greater part of the profession, met with early and continuous opposition from some of the warmest friends of the Association; and from none more decidedly than the editor of this *Journal.* From motives of delicacy, however, each successive nominating committee (with one exception,) followed the custom,—simply nominating whoever was recommended by the representatives of the local profession in the city where they were holding the meeting. Aside from the partiality and injustice of such a custom, it induced other evils of scarcely less magnitude. Thus, no sooner was a place selected for the next Annual Meeting, than every prominent member of the profession in that locality became suspected of being a candidate for the next presidency; and if the local profession did not actually split into factions,—each striving to bring its own favorite into a position for nomination, they were subject to the annoyance of being constantly so represented by half of the medical periodicals in the country. Impressed with the importance of breaking up such a custom, the following resolutions were presented to the meeting of the Illinois State Medical Society in the spring of 1859. They were laid on the table for further consideration. At the next annual meeting, in May, 1860, they were taken from the table, fully considered, and adopted by the Society with only two dissenting voices. Notwithstanding this action of the State Medical Society, in which representatives of all the Medical Societies and Colleges of this city participated, no sooner was this city selected as the place for an annual meeting, than the profession here was represented

as divided into factions, under the lead of two rival candidates for the presidency; and, if a medical journal, published in Louisville in the winter of 1860 and '61 was to be credited, these two parties were waging a fiercer war upon each other than that now carried on in *Rebeldom.*

It was in vain that we denied the existence of any such factions or candidates. Their existence continued to be alleged, and believed in, up to the hour of the recent meeting of the Association in this city. Indeed, so serious were these local feuds supposed to be, that some of the oldest members of the Association in Philadelphia, New York, and other distant cities, actually entertained fears for the welfare of the organization; and some professional *Ishmaelite*, who never had a truly *patriotic* idea in his head or impulse in his heart, even took the trouble to set afloat in the medical journals the wonderful idea, that the *loyalty* of some supposed candidate was not like the virtue of Cæsar's wife, entirely "above *suspicion.*" We can well imagine the surprise of the members of the Association, when, on their arrival in this city, they found one of the supposed candidates for the presidency so much engaged in projects for enlarging *canals* that he neither deigned to look at the Association nor to open the doors of his house for the reception of one of its members; while the greatest anxiety of the other was to get the following letter and resolutions fairly before the Nominating Committee in time, effectually to break up the only absurd custom which had fastened itself upon the annual doings of our national organization:—

CHICAGO, *June* 1*st*, 1863.

"To the Delegate on the Nominating Committee from Illinois:

"Dear Sir:—Enclosed you will find a series of Resolutions in relation to the custom of selecting a President for the American Medical Association from the place where the meeting is held, adopted by an almost unanimous vote of the Illinois State Medical Society, at the annual meeting in May, 1860.

"These Resolutions still stand as instructions to the Delegates from that Society. Should my name be mentioned in the

Nominating Committee as a candidate for President of the Association, you will confer a great favor on me by immediately presenting these Resolutions and this note, with the assurance that under no circumstances, can I permit myself to accept a nomination for the Presidency of the American Medical Association while the *custom* alluded to in the Resolutions is in force."

Yours truly,

N. S. DAVIS,

Permanent Sec'y of the Ill. State Med. Society.

"*Whereas*, The American Medical Association is a national Association, composed of delegates and members from all parts of the United States, meeting on terms of perfect equality:—

"Therefore, *Resolved*, That, in the opinion of this Society, all the officers of the Association should be selected strictly with reference to *merit*, and without any regard to their place of residence.

"*Resolved*, That the custom of selecting the President of the Association exclusively from the profession of the city in which the Annual Meeting is held, is not only derogatory to the general character of the organization, and calculated greatly to lessen the honor which should attach to that office, but past experience has shown that it leads directly to local divisions, jealousies, and injurious partisan strife.

"*Resolved*, That the delegates from this Society to the Association, be instructed to use their influence to abrogate the custom alluded to in the preceding resolution.

"*Resolved*, That the Secretary be directed to furnish copies of the foregoing resolutions to other State and Local Medical Societies, and ask their attention to the same."

The worthy representative on the Nominating Committee from Illinois performed his duty well, by presenting the documents at the right time, and thereby relieved the Committee from all feelings of delicacy, and compelled it to go to the profession at large for a candidate for its highest honor.

We thus had the extreme gratification of seeing the great American Medical Association again in active *harmonious* operation: of taking its members by the hand at our own fireside: and of striking the death-blow to a custom which we trust will never be revived.

Calomel and Tartarized Antimony in the Army.—No subject has recently elicited more discussion in the profession than the Order of the Surgeon-General, excluding calomel and tartar emetic from the supply-table of the Army. If, in a general revision of the list of medicines to be furnished on the requisition of army-surgeons, the Surgeon-General had simply omitted calomel, and tartrate of antimony and potassa, it would, probably, have attracted very little attention from the profession, generally. But the issuance of a special order, excluding these articles on the pretext that the first, especially, had been so grossly and generally abused by the medical officers of the Army, as to admit of no other mode of correction; and that recent improvements in pathology had rendered both unnecessary if not always hurtful, was, to say the least, not very modest in the Surgeon-General,—nor very complimentary to the medical staff over which he presides.

And, when we remember that a very large part of the present medical staff of the Army has been taken recently from the great mass of active practitioners throughout the country, it is not surprising that such an Order should excite general criticism. The attempt to correct the abuse of a remedial agent of acknowledged active qualities, by prohibiting its use, is so unphilosophical and absurd, that we confess to a feeling of chagrin at the thought, that one in the high and honorable position of Surgeon-General of the United States Army, should place himself on record in that position before the medical world. That he should go further, and, because some of the medical officers were represented to have abused these articles, therefore, publish to the world, substantially, that the whole medical staff of the United States Army were incapable of being safely trusted with the use of two of the oldest and most common articles of the *Materia Medica*, would be humiliating indeed, if it were not so manifestly ridiculous. The pretence set up by those who attempt to defend the Surgeon-General, that, in excluding calomel, he did not intend to exclude all mercurials, but left still in the supply-table blue mass, hyrag. cum. creta, the corrosive chloride, and the iodides, only make the matter worse.

For certainly no intelligent practitioner will pretend that corrosive sublimate, the iodides of mercury, or even blue mass, are either more mild or uniform in their action on the human system, than calomel; or that medical officers can be safely trusted with the former, who are too ignorant or careless to manage the latter with safety to their patients. Without any reference to the merits or demerits of calomel and antimony as remedial agents in the treatment of disease, the reasons set forth in the order for this prohibition are so manifestly unjust and unphilosophical, that we can see but two ways by which the Surgeon-General can escape the well-merited contempt of the profession. One is by acknowledging that the Order was issued without due consideration, and promptly withdrawing it; and the other is by immediately publishing the actual statistics of *salivation* and *mercurial gangrene* in the army, specifying the regiments and hospitals in which the cases occurred, and also the statistics claimed to be in his office, demonstrating that tartar emetic, as well as calomel, can be advantageously dispensed with in the treatment of all diseases of the army.

If the Surgeon-General refuses to adopt the first course of action, the profession certainly have a right to demand the adoption of the latter.

Hospitality of the Profession in Chicago.—A correspondent of the *American Medical Times* writes concerning the hospitalities extended to members of the American Medical Association, during its recent session in this city, as follows:—

"I cannot close this letter without bearing testimony to the liberal and generous hospitality of our professional brethren of Chicago. Delightful evening entertainments were given by Drs. N. S. Davis, W. W. Allport, W. H. Byford, M. Parker, A. Groesbeck, W. Carr and Son, and J. P. Ross. These entertainments were well attended, not only by the delegation, but also by Chicago feminine beauties. Your correspondent is deeply indebted to the profession of Chicago, and their families, for many a happy hour. Yours,

Correspondent."

Chancres.—*By W. E. Bowman, M.D.*—Treatment of Soft Chancre.—Assuming that the reader is cognizant of the facts so briefly stated in the last two numbers of the *Lancet*, I need not dwell on the importance of a proper diagnosis of the different forms of chancre, before commenting on the treatment of them, which differs so widely.

Although mercury, taken internally, ends the cicatrization of hard chancre, it has no beneficial influence upon the chancroid, which remains stationary or even progresses after salivation.

The virus, resting in the sore itself and its underlying tissues, is only effectually destroyed by thorough cauterization.

Pernitrate of mercury.—Having been, invariably, successful with this form of caustic for the arrest of soft chancres, in my own practice, I place it "par excellence," first on the list. I prepare it by adding an ounce of red precipitate to an ounce and a-quarter of nitric acid, in which it readily dissolves by shaking. It is very painful when thoroughly applied, causing much inflammation; and, when the chancre is large, the effusion of serum into the cellular tissue of the prepuce. It has seldom to be employed but once, however, even in aggravated cases; nor have I ever noticed any injurious effect, hitherto, from its employment. Linseed poultices should be kept to the part until the inflammation subsides, and, afterwards, water-dressing; when the gray slough separates, which it does, generally, in three or four days, the healthy ulcer left, afterwards, must be treated in the usual way with wet lint and oiled silk; stimulating it with red wash or solution of the chlorate of potash, should the granulations become exuberant. Collections of serum, formed after the operation, may be allowed to ooze away through punctures made into them with a needle.

Canquoin's paste.—Rollet and Diday assert that this caustic, composed of equal parts of chloride of zinc and flour, whilst exceedingly efficacious, gives but very little pain. It is made by drying the powdered chloride over a spirit-lamp before mixing it with dried flour, and adding alcohol drop by drop until the paste is formed, which is to be spread thinly on a cloth and again subjected to a gentle heat, a disc of this paste, corresponding in shape to the chancre and slightly exceeding in size, is cut out and retained upon the surface, previously cleansed of matter, from one to three hours, and, in large phagedenic ulcers, from four to six hours, the patient keeping his bed until the paste is removed.

Other caustics.—Nitric, strong acetic, and sulphuric acids,

caustic soda, potassa cum calce, and even the actual cautery or knife have their respective advocates. Dr. Bumstead, to whose work much of our former article was indebted, recommends the nitric acid in preference to all other applications, although he confesses that it sometimes requires to be repeated every second or third day.

When wrong to cauterize.—Thorough cauterization is inadmissible when chancroid extends deeply, and is situated directly over the urethra in either male or female, or in the vagina, when lying in contact with the bladder, rectum, or peritoneum, on account of the danger of an opening being created into these parts on the separation of the slough.—Again, cauterization is not applicable when the chancroid cannot be fully exposed as in phymosis, or when situated within the urethra, os uteri, &c., and would be useless unless every ulcer could be reached that would be likely to inoculate anew the eschar.

Nitrate of silver.—This is altogether too feeble in its action for universal adoption in cases of chancroid, but proves extremely useful in those enumerated that do not allow of a more powerful application. A comparative trial of the merits of the nitrate of silver and the solution of the pernitrate of mercury, would satisfy the most sceptical of the superiority of the latter, for the sore which has long remained stationary or even continued to extend, notwithstanding the constant use of the one, will be found to yield rapidly and cicatrize after a single thorough employment of the other.

Stimulating lotions.—These have the same influence upon a chancre as upon simple ulcers, and although they do not affect its specific character, do much good by keeping the pus removed as fast as it is secreted, and by coagulating the virus and hardening the adjacent tissues, prevent the inoculation of the surrounding parts and check the growth of the sore.

Among the many astringent and disinfecting lotions now in vogue, the following may be mentioned as some of those most frequently employed, viz.:—

℞. Zinci chlor. gr. j. aquæ ℥j. m.
℞. Liq. sodæ chlorinatæ ℥j. aquæ ℥ij. m.
℞. Ac. nitrici dil. ℥j. aquæ ℥viij. m.
℞. Tannin ℥ij. tinct. opii. ℥ss. aquæ ℥viij. m.

But the strength of these solutions must be adapted to the sensibility of the part, which varies in different cases, they should never be so strong as to excite pain or produce irritation, and indeed in many cases, when constant attention can be paid

to them, the lotion might as well consist entirely of water or glycerine.

The dressings should be kept covered with oiled silk, and renewed, in ordinary cases, as often as two or three times a day, that the discharges should not long remain in contact with the sore.

The black-wash, so much employed all over the world, is composed of two scruples of calomel and four ounces of lime-water. It is less cleanly and desirable than any of the forms above-mentioned.

Acetate of lead is objectionable, on account of its forming an insoluable albumenate of lead on the surface of the sore, which is with difficulty removed, and hides its progress.

Chancres beneath the prepuce, when it can be drawn back and examined, are often dressed with dry lint, which soon becomes sufficiently moistened by the natural secretion of the part.

Chancres of the frænum.—The frænum is particulary liable to be destroyed by chancre. When perforation takes place, the bridle should be cut and the raw surfaces cauterized. Diday recommends the separation to be made with a pair of scissors, which should be dull, these cut and cauterize at the same moment.

Urethral chancres.—The surfaces of urethral chancres, when near the meatus, should be kept separate by means of wet lint, which should be pushed down upon the sore with a probe, and have a thread attached to it to facilitate its withdrawal. When out of sight, the case must be treated as in gonorrhœa, by first subduing the inflammatory symptoms, by diet, rest, diluents, cathartic medicines, &c., and the employment of emollient urethral injections, afterwards resorting to those which are more powerful.

Phymosis.—If the chancroid be concealed by a tight and inflamed prepuce, free use should be made of the syringe, with tepid bathing of the part, which will not only keep the secretion from collecting, but also contribute materially to the reduction of the inflammation. When possible, a little dry lint may be passed up to the sore and allowed to remain for a few hours before removal. When the head of the penis is swollen and painful, it must be kept constantly buried in an emollient poultice or be fomented with infusion of poppy heads.

Iron, internally.—When soft chancres are slow in healing, Dr. Thompson remarks, that nothing appears to hasten cicatrization so much as a mild form of iron given internally, and

the potassio-tartrate appears to him to be the most successful in such cases; he prescribes it in doses of a scruple, in water, twice a day.—*Canada Lancet.*

ON THE TREATMENT OF CONSUMPTION BY THE HYPOPHOSPHITES.

To the Editor of *The Lancet:*

Sir:—Dr. Cotton's recent experiments are only a repetition of his former ones, with the time extended from a fortnight to a month. They are as invalid as the first.

He begins by asserting that the hypophosphites have no physiological action. If he will take an overdose, say four or five tablespoonfuls daily, of the syrup, he will soon find, to his very great discomfort, they produce such a state of plethora as to bring on epistaxis, or hæmoptysis, or bleeding from the intestines, either with or without symptoms of congestion towards the head or lungs. His principle is to give the hypophosphites for a month, then to leave them off to give some other substance, claiming for this second substance the merit of whatever improvement may continue after the suspension of the hypophosphites. This rests upon the assumption that the effect of the hypophosphites ceases as soon as the medicine is suspended, which is contrary to experience with regard to the action of all mineral substances assimilated by the organism. Upon the same principle, Dr. Cotton would have the right to conclude that if a patient who has been vaccinated begins by taking carbonate of soda immediately after, and continues it for some time, his immunity from small-pox would be owing to carbonate of soda, and not to vaccination.

The most elementary principle of experiment is to distinguish and isolate, as far as possible, the different conditions upon which the result of the experiment depends, so as to ascertain those which really contribute to the result, and those which do not. Dr. Cotton is, evidently, acquainted with this principle; for not only does he not apply it, but willfully and pre-determinately violates it in every one of his experiments. If his object had really been to ascertain the true value of the hypophosphites in the treatment of consumption, the simple, rational, logical, and scientific plan would have been to take a series of patients in certain determinate pathological conditions, and to treat them with the hypophosphites until death or cure ensued. During the same period another series of patients, selected as nearly as possible in the same pathological condition as the first, should be submitted to some other course of treatment. These two series of researches, if scientifically carried out,

would have afforded more data for comparison, and allowed of some definite conclusion. But, as Dr. Cotton's object was rather to play the part of advocate, and to find a plea against the efficacy of the hypophosphites, he has taken care to produce no well-defined and scientific results. He has, nevertheless, defeated the purpose he had in view, and produced a certificate in favor of the hypophosphites; for, according to his own showing, out of 12 cases (of which 2 are declared beforehand to be unpromising, thus reducing the number to 10), the hypophosphites were successful in 7 instances, producing improvement, and much improvement, and moderate improvement; the weight of the patients increasing in every instance, and in one or two to a great extent.

For the future, I would ask Dr. Cotton, before he institutes any further experiments in therapeutics, to bear in mind the following question:—How many negative results in experimental science, obtained under variable or unknown conditions, are sufficient to overthrow one single positive instance, the character and condition of which have been scientifically determined? When he has thought of this question in all its bearings, he will have a better right to come forward as a therapeutist; for such a mode of proceeding in therapeutics, as that followed by Dr. Cotton, appears to me to have no more claim to be a scientific experiment, than would be the fact of a man, ignorant of chemistry, going into a laboratory and throwing half-a-dozen of the first substances he met with into a crucible, and calling that a chemical experiment. The hypophosphites have proved themselves to any impartial observer, even, as I conceive, in the hands of Dr. Cotton himself, to be medicines of the highest importance. Men of scientific attainments and practical experience prescribe them, and will, I have no doubt, continue to prescribe them, to the relief of patients suffering from one of the most intractable of maladies which afflict humanity.

I remain, Sir, your obedient servant,

J. F. Churchill.

Avenue, Montaigne, 1863.

—*London Lancet.*

Iodide of Lime.—A Substitute for Iodide of Potassium.—*By James R. Nichols, Chemist.*—The "Iodide of Lime," first introduced in 1855 by Dr. Puddock, a distinguished London physician, has been rapidly gaining favor among English practitioners, as a remedy of great value. It is used in those cases where iodide of potassium is indicated with more marked effects than usually attend the use of that salt. The success attending

its use has led us to prepare the article with much care; and also to present it in aqueous solution,—which is, perhaps, a preferable form. The lime and iodine are held together by a very feeble affinity, and the salt will not admit of exposure without evolving free iodine. The *solution* is a colorless and almost tasteless liquid, and remains permanent although long kept and exposed to the air.

Each drachm of the salt contains eight and a-half grains of iodine; and each fluid ounce of the solution contains half a grain of iodine. The iodine, *in the solution*, exists in the form of Iodide of Calcium and Iodate of Lime, thus:—$6CaO=6I+5CaI+CaO, IO^5$. Acids decompose the solution, and free the iodine; hence the utility of this form for the administration of iodine, probably, in the state of an oxide. The Iodide of Lime is superior to Iodide of Potassium in several particulars, as,

1.—The smallness of the dose, and the minute state of its atomic division. 2.—In not passing off so quickly through the kidneys. 3.—In its ready combination with the blood and tissues, manifested by its alterative effects. 4.—In being nearly tasteless, and, therefore, readily taken by children. 5.—In being much less expensive. 6.—In not producing either gastro-enteritic or vesical irritation.

Iodide of Potassium is an expensive remedy; and, on that account, many physicians refrain from using it. The Iodide of Lime being found to be more efficacious and much cheaper, will, doubtless, be substituted for it to a great extent. It has been used in England, with much success in throat diseases, in morbid conditions of the general system, in scrofulous affections, in intractable cases of neuralgia, in diseases caused by metallic poisons, etc. At the Bloomsbury Dispensary, England, it has been extensively prescribed for three years, with much success.

The dose of the salt is very small,—about one-fourth of a grain two or three times a day. Of the solution, two to four fluid drachms may be given as often. The salt is put up in ounce bottles, and the solution in pounds. The iodine in the solution is set free by adding a few drops of nitric, sulphuric, or hydrochloric acid. Druggists and physicians will please institute the experiment, that the presence of Iodine may be demonstrated in the clear solution. Physicians ordering our article, may rely upon its purity and accuracy of combination. Physicians should order the salt in one-ounce vials, and prepare the solution themselves. Directions accompany each vial.

Materia Medica and Hygiene in the University of Buffalo.—We understand that Prof. Charles A. Lee, having completed his European tour and returned to this country, resumes the duties of his Professorship in the University of Buffalo, and will lecture at the approaching term upon *Materia Medica* and Hygiene.—*Buffalo Journal.*

Diphtheria.—Dr. C. V. Moore, of Stillwater, N. J., writes:—"Diphtheria has been prevailing again, the type sthenic. It yields, pretty generally, under the administration of the sulphate of zinc, in emetic doses repeated every twenty-four or thirty-six hours, in conjunction with chlorate of potash and tincture of the chloride of iron. Pustulations, with croton oil to the neck, seemed decidedly beneficial, I have met with several cases that recovered unexpectedly, even after the extension of the disease to the larynx, accompanied by croupy cough." Dr. Moore speaks highly of the beneficial effects of the zinc emetics in these cases.—*Medical and Surgical Reporter.*

The Action of Expectoration.—In a paper on this subject read at a recent meeting of the Glasgow Medical and Chirurgical Society, by Dr. W. T. Gairdner, he advanced the theory, that the bronchial tubes acted in a manner similar to that of the bowels, and ejected their contents by a peristaltic motion, which could as certainly be increased by appropriate medicines as could that of the bowels.—*London Lancet.*

Academy of Medicine, Paris.—Professor Rokitansky has been elected a Foreign Associate by forty-two out of fifty-three voters present. The other candidates were Virchow, Frerichs, and Magnus Huss.—*London Lancet.*

Vivisection.—The deputation of the Society for the Prevention of Cruelty to Animals, which some time since waited on the Emperor Napoleon to protest against the practice of vivisection, have been rewarded by an ordinance of police, which places a check on this practice. The veterinary and anatomical schools are, therefore, expected to relinquish it entirely.—*London Lancet.*

Cinchona in Java.—The Dutch Government, having prohibited the culture of opium, has wisely favored the production of the cinchona, imposing upon the planters such regulations as are necessary to the preservation of the trees.—*Ibid.*

Rank of Naval Surgeons.—By a recent order, issued from the Navy Department, the following is to be the rank of surgeons in the navy:—

Surgeon of the Fleet to rank with Captain.

Surgeons to rank with Lieutenant-Commanders, for the first five years after promotion; after the first five years with Commanders; and after fifteen years to rank with Captains.

Passed Assistant-Surgeons to rank with Lieutenants.

Assistant-Surgeons to rank with Masters.—*Medical and Surgical Reporter.*

Diminished Death-rate in the Army.—From 1830 to 1836 the annual death-rate among the troops in the United Kingdom was 14 per 1000; in the years 1859-60 it was reduced to 5. During the same periods, the death-rate in the cavalry of the line was reduced from 15 to 6; in the royal artillery, from 15 to 7; in the foot guards, from 21 to 9; in the infantry of the line, from 17 to 8. A similar decrease is to be reported respecting the British troops in the Colonies.—*London Lancet.*

The Deaths in London in 1862 from all causes were 66, 950, of which 34,133 were males, and 32,817 females. The greatest number occurred in the forty-eighth week, ending 29th of November, when they rose to 1,745. In that week the mean temperature of the air fell to 37·1°. The least number occurred in the twenty-eighth week, and was 1,065, when the mean temperature rose to 58·2°.—*London Lancet.*

Peruvian Physicians.—Dr. Markham, in his travels in Peru, describes the physicians as a wandering class. With their wallets of drugs on their backs and dressed in black britches, a red ponchof and broad-brimmed hat, they walk in direct line from village to village, as did their ancestors in the time of the Incas. It is remarkable that they should never have discovered the febrifugal qualities of the chinchona.—*London Lancet.*

A Cure for Fistula Lachrymalis.—M. Delore states, in the "Transections of the Societe des Sciences Medicales of Lyons," that in four cases out of nine, he succeeded in curing his patients by perforating the lachrymal bone, and placing in the cavity thus made a cone composed of arsenical paste. It is, however, difficult to say whether the perforation or the caustic ought to have the merit of the cure.—*London Lancet.*

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CHICAGO MEDICAL EXAMINER.

N. S. DAVIS, M.D., Editor.

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ARTICLE XV.

REPORT ON TYPHOID FEVER.

By H. NOBLE, M.D., of Heyworth Ill.

Read to the Illinois State Medical Society.

Mr. President and Gentlemen:—The paper which I shall read to you is a "Report on Typhoid Fever," composed of remarks and observations on the nature and treatment of that disease.

This subject has, I know, been frequently and ably discussed: learned and minute essays from patient observers have from time to time been given, notwithstanding which, typhoid fever remains one of our most intractable diseases. I do not expect to elucidate in any great degree the obscurities of this disease, nor have I any special or new theory of its nature or cure. I only desire to give you in this report my own observations and conclusions, knowing well that from the sum of many observers' deductions the *truth* may, ultimately, be found.

My opinion is, that typhoid fever is a disease that is located, especially, in the mucous coat of the intestines; that in all cases of the disease there is irritation or inflammation of the mucous follicles, but not necessarily ulceration of Peyer's glands or any other tissue. Many cases of the disease, I think, show

all the symptoms of typhoid fever, and are fully matured without ulceration.

When the disease is uncomplicated, the patient, generally, complains for several days of slight indisposition only, the appetite sometimes not materially impaired, yet there is an evident want of nutrition. Before there is any abdominal tenderness, the tongue indicates mucous irritation, the tips and edges being red; and, as the disease progresses, the redness increases and becomes deeper, the surface becomes glossy and smooth, often with the papilla enlarged.

Unless modified by treatment, the bowels become tumefied and tender, on pressure, diarrhœa usually attending, in some cases the action of the bowels remain natural. The pulse is, generally, accelerated, sometimes to 150 to the minute, this is not invariably the case.

I have seen five or six cases of typhoid fever, in which, the pulse did not, for the first four weeks, exceed 50 beats to the minute, at any time that I observed it. One of these cases terminated fatally, after five weeks' duration, the pulse, during the last eight or ten days, reaching 120. As the other cases got well, the pulse increased in frequency until it reached the natural standard, but never exceeded it during the continuance of the disease.

In the fatal cases which I have seen, death resulted from the following causes, viz.:—Perforation of the intestine, prostration or exhaustion of the vital forces, and from the complication of other diseases. Perforation of the bowel, though not very common, is *very fatal*, no case that I have seen surviving more than thirty or forty hours after the occurrence took place. When perforation of the bowel occurs, it is attended with symptoms of peritonitis; the agonized expression of countenance being always present; pulse rapid and feeble; excessive restlessness; cold sweat; and rapid prostration.

The collapse which follows perforation of the bowel, in typhoid fever, resembles, in every respect, so far as I can judge, the collapse of Asiatic cholera,—the want of capillary circulation is shown by the blue color of the skin being alike in

both cases. The patient, after perforation, is sensible of pain for a short time only, say from two to six hours, after which, the nerves loose their normal action and do not respond to the stimulus which usually excites sensation. Those cases which died of prostration, had been sick from six to twelve weeks, and were attended with a general failure of the vital forces. We sometimes see cases begin, and progress in a mild form, and without complication, yet the patient becomes emaciated and feeble, nutrition being much impaired, if not entirely suspended, and the patient dies without the supervention of any active disease; but by far the greatest number of deaths that have occurred under my observation, have resulted from complication with other diseases.

The most fatal of these complications is the occurrence of inflammation in the cerebral cavity. This may occur at any period of the disease, though the cases that I have witnessed, with few exceptions, took place early, say from the third to the sixth day. Those cases commenced and progressed for two or three days without apparent danger or violence, the patient thinking himself not sick enough to need a physician, until a partial coma alarms the friends enough to call a physician. The coma increases until it is difficult to arouse the patient, who is continually reaching for and catching at imaginary objects, pulling the bed-clothes and muttering to himself disconnected words and sentences. When typhoid fever becomes complicated with congestion or inflammation of the brain, the latter becomes the leading or principal disease, its symptoms being far more prominent and alarming than the fever which preceded. Of this class of cases, I have only seen a few recover; but, when convalescence was established, it was at an earlier period than would have been expected had the fever progressed without complication. That is, when the cerebral symptoms are relieved, the fever does not recur. I shall have a word to say on this subject under the head of hemorrhage.

Pneumonia is a more common though less fatal complication, a large proportion of typhoid cases recovering after its occurrence. It takes place in any stage of typhoid fever, though I

believe it is most common in the early or forming stage. Although the occurrence of pneumonia adds much to the peril of the typhoid patient, a large proportion of cases recover after its attack. Another complication or, perhaps, more properly, a consequence of typhoid fever is hemorrhage from the bowels. This is not so frequently met with as pneumonia, is much more dangerous, generally prostrating the patient in a few hours past all possibility of recovery. I have never seen hemorrhage from the bowels occur in typhoid fever until the latter disease was fully developed; and although large quantities of blood are sometimes discharged, I do not think it necessarily the result of organic lesion, relaxation of the mucous membrane being sufficient to allow any quantity of blood to escape, which we ever see evacuated by the bowels.

As mentioned under the head of cerebral complications, the primary discharge sometimes is relieved by the evacuation of blood from the bowels. It is, perhaps, easier to understand how the effusion of blood from the mucous membrane should relieve the system of disease supposed to be located in that membrane, than it is to see how inflammation or disease, in an organ remote from the primary seat of disease, should relieve that primary disease; but when we consider that the whole system is nurtured by nerves which spring from one centre, the mystery will as once be solved. An impression made on the nervous centre, either by disease or remedies, affects the whole nervous system, and may render the whole, or any part of it, unsusceptible to a local influence. Thus, typhoid fever may be rendered powerless by the influence of another disease acting through the medium of the nerves. I have no doubt that typhoid fever is frequently eradicated from the system in that way; but I do not consider it a desirable or safe way, as I have only seen one patient recover after blood in large quantity had been evacuated from the bowels.

The above-enumerated are some of the principal diseases with which typhoid fever may be complicated, but by no means all of them. I have only mentioned the most important, as regards the frequency of their occurrence, and their danger

when present. Any person will readily perceive that typhoid fever has, by its first morbid effect on the system, (namely, arresting, partially, nutrition,) not only rendered the system less able to resist the attack of a new disease, but it had also, in a measure, destroyed the restorative power, by reducing, through the want of nutrition, the vital forces. Under such circumstances, what is generally considered quite light and unimportant disease, assumes, to the experienced observer, a very grave importance; and he is prepared to see the system yield to ailments which, in a person in general good health, scarcely require medical interference.

In forming our prognosis of any case of local disease, we take into consideration the importance of the organ or tissue implicated, from which, with the amount of disease present or expected, we form our opinion of the result.

Now, if the view I have taken of typhoid fever be correct, the tissue implicated is a portion of the alimentary canal, which forms an important part of the apparatus that nourishes and sustains the whole system. There are then few diseases which are located in more important tissues than typhoid fever itself; and, when we consider the frequency of its complications and the inability of the system, when under its influence, to resist disease, we must say, that typhoid fever stands at or very near the head of formidable diseases in this country. I believe the disease is, through the country, generally, on the increase, some localities, however, being more subject to it than others. The towns of Newcastle, and Waynesville, and adjacent country were first visited with typhoid fever in 1846 and '7, at which time it was fatal in a large majority of the cases which occurred. Since then, it has been met with in all parts of the county, but it is more prevalent in some parts than in others. For instance, there has been for several years past more typhoid fever on Salt Creek, a stream which rises in or near the N.E. corner of McLean Co., than there has been in any other section of country with which I am acquainted. I do not know any local cause for the greater prevalence of the disease in that locality. I am not acquainted with the geological forma-

tion of the country well enough, to say there is no difference between that and more healthy localities; but, if there be a difference, it is not apparent to a superficial observer. I believe autumnal diseases are no more frequent in that region than in others.

That the geological formation of a country modifies the diseases of the same, I have no doubt. The army of the frontier has suffered this spring (1863,) from a disease which the surgeons call typhoid pneumonia, the fatality of which was truly appalling. The symptoms were, rigors, congestion of the lungs and brain, coma, and *death*,—many cases terminating fatally in less than forty hours. In the cases described, congestion was the leading symptom; but, in all cases where the disease was checked or arrested, the typhoid character was apparent; and, although the typhoid condition might be supposed to be the result of the congestion, the surgeons, generally, thought that the latter was the congestive stage of the typhoid disease.

Now, the geological formation there (the Ozark mountain region,) is entirely different from *our Illinois*. The soil is very loose and sandy, mixed with small irregular shaped limestone, giving it great facility to absorb water, and the same conditions being favorable for great evaporation. I should look for autumnal diseases to be prevalent on such a formation; and our army has found that the spring season is not exempt from serious disease. While autumnal diseases, such as diarrhœa, dysentery, intermittent and bilious fever have been prevalent in the army of the frontier, uncomplicated typhoid fever has not prevailed to any great extent, there being, perhaps, fewer cases than might have been expected in the same population at home.

In the treatment of this disease, I differ with many of my friends in the profession. I know that many physicians profess to *cure* typhoid fever; some of them say, that from four to six days is as long as it generally runs with them, unless it had progressed to something like maturity before they had it under treatment; but I also know that that degree of success is not universally allowed by the profession. The typhoid fever that

has come under my observation has always been an obstinate disease, running from three to twelve weeks to establish convalescence, no case yielding, according to my recollection, in less than twenty-one days. This is very different from the opinions expressed by many of our friends who have written on the subject, who state, that, by a particular treatment, they, generally, cut the disease short,—that is, cure it in a few days.

The plan of treatment which I have followed for several years past has been especially directed, first, to the correction of the supposed lesion of the intestines; and, next, to sustain the strength and vitality of the patient. After evacuating the bowels with a mercurial preparation, with which I frequently combine from one to three grains of quinine, I give nitric acid diluted to about the strength of good vinegar, in teaspoonful doses, repeated in four or six hours, according to the urgency of the case. Should the tongue become red or shining, I give turpentine in from twenty to sixty drop doses from two to four times a day, until the tongue resumes its natural color or until the unnatural redness disappears, after which, I resume the use of the nitric acid, and continue it, generally, until convalescence is established, unless it becomes necessary to suspend it to use other remedies. I have observed, that, when the redness of the tongue has been corrected by the use of turpentine, the exhibition of the acid prevented its recurrence, in some cases, through the whole disease, and, in all, its effects seemed to be beneficial.

I do not think that nitric acid possesses any specific power to control the intestinal disease, but benefits the patient by its tonic and invigorating action, thereby enabling the system more effectually to resist the influence of disease and, at the same time, promote the recuperative process. At any time, during the progress of the disease, that the secretions become deranged or deficient, I give calomel sufficient to restore them as near as possible, always discontinuing its use as soon as that particular object is attained. During the whole course of the disease, I consider it necessary to watch carefully the appearance of any new disease; and, if any such occurs, to relieve by judicious means, as soon as possible, the patient from the unpleasant complication.

To sustain as much as possible the strength of the patient, the diet should be nourishing, easily digested, and not stimulating. It should also be made up of a variety of dishes,—never allowing the patient to make a meal off one course. It should be taken, as near as possible, at the accustomed hour for meals, as it is thought that the digestion is more active at the regular periods than at other times.

Under this mode of treatment, this disease, although a formidable and dangerous one, is not more fatal than many other diseases which have less reputation for obstinate fatality. I cannot give the per cent of the fatal out of the whole number of cases, but I do not think it will exceed the fatality of pneumonia or dysentery.

ARTICLE XVI.

REPORT OF THE SPECIAL COMMITTEE ON DISEASES OF THE EYE.

By E. L. HOLMES, M.D., of Chicago. One of the Surgeons of the Chicago Charitable Eye and Ear Infirmary.

Read at the Annual Meeting of the Illinois State Medical Society, held at Jacksonville, May, 1863.

In offering this Report, your Committee on Diseases of the Eye cannot but deeply regret that the members of the Society, generally, have not manifested more interest in the important subjects for which the Special Committee was appointed. The attention of the profession was called to the subject by public and private notices, with the request, that members should contribute whatever they could of interest relating to diseases of the eye.

Your committee has received no communications from a single member, although, many friends of the Society must have had extensive experience in ophthalmic diseases, and could contribute valuable and interesting papers upon the subject. It should not be forgotten, however, that many of our most active members have devoted their whole time and energies to the

care of the brave soldiers which the State has sent into the field during the past two years. The Committee has, consequently, been left alone; and the following Report must, necessarily, be much more limited in scope than the importance of the subject merits.

Among the subjects in which we have for some time been particularly interested, and, in discussing which, we have sought the aid of the members of the Society and of the profession at large, we would mention "The Causes of Conjunctivitis in this State and North-West," and the "Prevention and Treatment of Sympathetic Ophthalmitis." Regarding the former of these subjects, we have comparatively little to say, since few facts have come to our knowledge in addition to those reported by your committee at the last meeting of the Society. Careful enquiry concerning the history of a very large number of patients, afflicted with severe conjunctivitis or its sequelæ, together with conversation with physicians practicing in different portions of the North-West, have confirmed the opinions expressed in our last Report,—that the chief causes of catarrhal ophthalmia, in this portion of our country, are found in the dry condition of the atmosphere, the bright light of the sun, rendered, possibly, more intense by this dryness, in the winds loaded with dust, and sweeping over the unbroken level of the country, and, especially, in the reckless manner in which the people expose themselves to the active causes of this disease. Several of these cases are, undoubtedly, the same which have always rendered the people of Egypt and Syria liable to conjunctival inflammation. In every portion of the world, we believe, where the climate and geological peculiarities of the country are similar to those of the North-Western States, the same diseases are prevalent. There is a popular opinion that the dust from the leaves of certain trees and flowers is one of the active causes of the disease in question. That the above are the chief causes, may be inferred from the fact, that the majority of patients examined were first attacked in the summer, when so much more exposed to these influences, than in colder seasons of the year. It is worthy of notice, that in Chicago and other places near

the lake, where the atmosphere is much more moist than in those situated at a distance from it, inflammatory diseases of the conjunctiva are comparatively rare. We have been informed by intelligent physicians, practicing in the southern and western portions of this State, that severe epidemics of this disease are quite prevalent in some seasons, nearly one-half of the cases which they are called upon to treat, being conjunctival diseases of the eye. During the past seven years, we have met with no epidemic conjunctivitis in Chicago.

One of the most obvious causes of conjunctivitis is contagion. To this cause may be traced the rapid spread of this disease among the soldiers of the European armies. As soon as proper means were adopted to seclude the infected soldiers, the disease was speedily eradicated. We have been informed by physicians practicing in different portions of Illinois and the North-West, that the manner in which the small dwellings of the people are often crowded with occupants, their careless habits, as regards cleanliness, tend to increase the number of victims of this troublesome disease. We have known repeated instances in which an individual was attacked with muco-purulent conjunctivitis, and, in the space of a few weeks, the whole family, varying, in number, from four to six members, became affected. There could be no doubt that the disease was communicated, in these cases, from one member to another, by the want of proper care in the use of handkerchiefs and towels.

An indirect cause of the spread of this disease is found in delay in seeking proper medical treatment, on the part of the patient, and too often in the insufficient or too severe treatment of the physician. It was our intention to make the treatment of conjunctivitis the special subject of this Report; and, although your committee have accumulated much material upon the subject, with the history of a large number of cases, we are not yet full prepared to furnish such a paper as the subject demands. At some future time, if it meets the approval of the Society, we propose to pursue this topic.

Several cases of sympathetic ophthalmitis have fallen under our notice during the past two years. The eyes, at our first

examination, were found so far disorganized as to render sight irretrievably lost. Undoubtedly, every physician of experience has either treated or observed patients who have become *entirely* blind, in consequence of an injury of only one eye. It is well known that in cases of certain injuries of the globe, especially punctured wounds, a chronic inflammation of the internal tissues of the eye supervenes, which is exceedingly difficult to overcome by any kind of treatment. After a time, varying from a day to six weeks, in a certain proportion of cases, the other eye becomes affected with a peculiar form of inflammation, principally involving the *iris, choroid, and retina.* This inflammation, at first, is usually quite slow in its progress, and is attended with pain in and around the eye with loss of sight. Regarding the serious character of this disease, MACKENZIE says: "Whenever I see sympathetic ophthalmitis, even in its first stage, I know I have to contend with an affection which, however slight its present symptoms may be, is one of the most dangerous inflammations to which the organ of vision is exposed. I have very seldom seen an eye recover from sympathetic ophthalmitis."

The curative treatment of this disease, which is now most successful, is said to be the removal of a piece of the iris, as now so highly recommended in glaucoma. We have never had an opportunity of trying it, and can, therefore, say nothing from personal experience. The preventive treatment of sympathetic ophthalmitis, which has been found, by experience, most reliable, consists in the partial or total extirpation of the injured eye, before the least symptoms of inflammation has appeared in the other. For favorable notices of this operation, we would refer to various medical journals, especially *London Ophthalmic Hospital Reports*, and *Archive of Ophthalmology.*

There are three classes of cases, according to GRÆFE, in which sympathetic ophthalmitis is especially liable to occur.—1st.—When a foreign body or a dislocated and enlarged lens is a source of irritation in one eye. 2d.—When internal disorganization is progressing, with increased outward pressure of the fluids of the eye, rendering the walls of the globe more

tense than natural. 3d.—When, in commencing atrophy of one eye, (from chronic inflammations of iris and choroid,) there is tenderness, on pressure, over the region of the ciliary processes. It is impossible, however, to foretell in what cases the sympathetic inflammation will or will not make its appearance. Many patients escape after long attacks of disorganizing inflammation; but we believe it is safer, in *all* cases where vision is destroyed, to resort to the partial or total extirpation of the eye, before the symptoms of disease appear in the other eye.

We think, any one who has had much experience in treating injuries of the eye, must be fully convinced that many patients, with penetrating wounds of the cornea and lens, attended with prolapsus and inflammation of the iris and choroid, and with loss of vision, would escape much distress by resorting immediately to the surgical treatment mentioned above. Patients, however, almost invariably feel great repugnance at the "thought of having an eye cut out," and will seldom submit to an operation, till worn out with excruciating pain, and loss of sleep, and threatening loss of health.

The method of removing the eye, as introduced by CRITCHETT, and now recommended by many ophthalmic surgeons, is simple and, usually, without danger.—A circular incision is made through the conjunctiva, parallel to the cornea, and the recti-muscles severed close to the selerotica, as in the operation for strabismus; the conjunctiva is then separated from the sclerotica, and the optic-nerve divided by a pair of blunt-pointed curved scissors passed behind the globe, when the eye can be readily removed from the orbit and the operation finished by cutting the oblique muscles. It is, occasionally, advisable to enlarge the palpebral fissure by slitting the tissues at the external angle, especially when the eye is hypertrophied. The operation, as thus performed, leaves the muscles and nearly the whole conjunctiva. The wound usually heals in about a fortnight, leaving a "stump" suitable for an artificial eye. In many instances, the excision of the cornea is sufficient. It is not, however, always reliable, for the inflamed choroid and adjacent membranes may continue a source of irritation, which will be

difficult to relieve. Moreover, the operation is not unfrequently followed by serious hemorrhage, since the inflammation has caused an enlargement of the vessels of the retina and choroid. The walls of these vessels, especially those of the retina, are exceedingly delicate, and often rupture "spontaneously" when the pressure of the humors within the globe is removed, as, in excising the cornea. The operation for the extirpation of the eye is almost entirely free from this objection, as it is seldom attended with much loss of blood. We dwell somewhat at length upon this point, because many physicians seem ignorant of the terrible consequences liable to follow certain inflammations of one eye. We are confident sight could have been preserved in six cases we have noticed, by the operation above indicated, where, by its omission, total blindness was the final result. In three cases of injury, where we had advised the operation and the patients had disregarded our council, they returned, after three or four months of excruciating pain and vain efforts to obtain relief, with general health much impaired by suffering and loss of sleep, and requested us to do as we deemed best.

It is impossible for your committee, within the limits of this Report, to present a detailed account of all the advances which have been made during the past few years in ophthalmic science. We must, however, call the attention to a few points which are of particular importance, referring, for their full discussion, to the original articles of those writers, who are regarded as high authority. The subjects of Glaucoma and the Ophthalmoscope are each worthy of a paper more extended than this Report. The medical literature of our own language is now quite rich in translations from foreign languages or in original contributions on these subjects; and we can, for the present, only refer the members of the Society to them.

A modification in the operation for the extirpation of hard cataract, ably discussed in a recent pamphlet by MOOREN, will reduce the danger attending this delicate operation, if we may judge from reported cases and from the results of two operations performed by your committee. The modification consists in removing a small section of the iris, as in performing the

operation for artificial pupil, and, a week or two after, extracting the lens in the usual way. Although the pupil will, of course, be larger than natural and of an abnormal shape, the lens escapes so readily, without undue violence to the iris, that the danger of subsequent inflammation is greatly reduced.

The whole subject of accommodation of the eye to different distances, and the diagnosis of diseased condition of this function, with the use of lenses, should be carefully reviewed by every physician. The works of DONDERS, GRÆFE, WELLS, and KNAPP deserve special study.

The subject of "Astygmatismus" or difference of convexity of the cornea or lens in their different merideans, first analyzed, we believe, thirty or forty years ago by YOUNG and AIRY, is of particular interest, and has been treated, at length, by DONDERS, KNAPP, and others.

We cannot omit a short notice of a simple operation, which will prove of great benefit in certain cases of chronic inflammation of the conjunctiva with granulations, and the secondary afflictions produced by them. In many cases of these diseases, the palprebal fissure becomes diminished in size, and the lids press unduly upon the cornea in consequence of spasmodic contractions of the orbicular muscle. The double operation consists, first, in elongating the palpebral fissure at the external commissure, by an incision of a couple of lines or more in length through the conjunctiva and integument. To prevent re-union, a couple of stitches are necessary for uniting the conjunctiva and skin at the angle of the incision. The spasm is still further reduced by the second step of the operation, which is the introduction of two or three tightly drawn vertical ligatures through a fold, embracing the integument and muscle of the lid. The ligatures ulcerate out in a week or ten days. Excellent observations upon this operation can be found in the valuable work (Part I, pages 6 and 7,) of PAGENSTECHER and SÆMISCH, of Wiesbaden, published in 1861. To Dr. E. WILLIAMS, an able and well-known oculist of Cincinnati, is due, we believe, the credit of devising, independent of GAILLARD and PAGENSTECHER, the operation above described.

Your committee take pleasure in referring to the efforts of Dr. HOMBERGER, of New York, to establish a journal of ophthalmology in the United States. Such a journal, in the present rapid advances in ophthalmic science, is a much needed acquisition to our professional literature. We believe Dr. HOMBERGER, from his knowledge of the details of ophthalmic practice as observed in Europe, and his acquaintance with the ophthalmic literature of all the important European languages, will make the journal what the wants of the profession require. We heartily commend the enterprise of Dr. HOMBERGER to the support and encouragement of this Society and of the profession at large.

We would call the attention of the Society to the continued prosperity of the "Chicago Charitable Eye and Ear Infirmary," which has now been in operation five years. The organization consists of a Board of twelve Trustees, of two Consulting and two Attending-Surgeons. During the past two years, there have been 644 patients under treatment,—making an aggregate of 1224 since the opening of the Infirmary in 1858.

The Infirmary is a charitable institution, and is intended for the poor patients of the whole North-West as well as of Chicago. In nearly every large European city, and in the larger cities of the Eastern States, infirmaries have been established for the treatment of the poor suffering from the diseases of the eye or ear; and supported not only by private munificence, but also by ample grants from the State. The sum of nearly $100,000 was raised by subscription in the Cities of New York and Boston for their respective infirmaries. "There is urgent need of a similar institution in Chicago. The city is already the most important point in the North-West in every thing that relates to commerce and wealth. Every year is rapidly adding to the population of the city as well as the influence which it is exerting upon the growing country around. The inhabitants of the North-West, more especially the poor, who are particularly exposed to all the causes of this class of diseases, are more liable to diseases of the eye than those of almost any other section of the country." The members of this Association

should remember that the treatment of ophthalmic diseases is one of the most important fields of labor in which the physician can devote his energies. The medical student, especially the one who intends to practice in the country, should understand thoroughly the diagnosis and treatment of the ordinary inflammatory diseases of the eye. By no means can he well prepare himself for this branch of practice, as by regular attendance upon the clinics of a well-organized eye infirmary. Your committee would, therefore, urge upon the Society a careful consideration of the claims of the Infirmary at Chicago, as a public charity and a means of extending a knowledge of diseases of the eye and ear among medical students, and ask for it such encouragement and support as the members of the profession are able to give.

CEREBRO-SPINAL MENINGITIS.

By N. S. DAVIS, M.D.

We cannot better answer numerous letters that we have received, inquiring in relation to the best mode of treating a disease which has prevailed very severly in some localities in the North-West, during the past year, than by publishing the following observations. The disease has been called by different names; and it is quite certain that different diseases have been sometimes confounded together. In a recent number of the *Boston Medical and Surgical Journal*, we find eight cases, with *post mortem* examinations, reported by Dr. UPHAM, under the head of "Congestive Fever" or "Cerebro-Spinal Meningitis." At the conclusion of his cases, he sums up the symptoms as follows:—

"In its *mode of attack*, the disease was commonly sudden and without premonition, the patient, for the most part, continuing on duty and making no complaints till the very day of his seizure. Some of the most violent cases thus commenced; Case XII, previously cited, is, in point, where the soldier appeared with his company at the evening dress parade, com-

plained of chilliness, headache, &c., during the night, and was dead within thirty-six hours following. And the subjects of the disease, in most cases, were those previously in the fulness of robust health,—between the ages of 18 and 24,—who had endured hardships and exposures with impunity.

"The *symptoms* were, at the first, headache, referred oftentimes to the back part of the head particularly, with dizziness, —pain in the back and limbs, this last, occasionally, of an excruciating character,—with, sometimes, rigors, and nausea, and vomiting. Chilliness, rather a well-defined chill, characterized the accession of the disease. A peculiar stiffness in the muscles of the face and neck was often an early symptom; this would be followed by local spasms, perversion of vision, &c. In some cases, the initiatory symptoms were those of a severe cold, with a disposition to paralysis of the tongue and a portion of the muscles of the face. With this the respiration would be difficult and irregular, giving occasion to fear a congestive attack of the lungs. There was often tenderness at the nape of the neck and along the spine early in the disease. The skin was, usually, moist, but hot. The face was suffused,—of a dusky hue,—and the features distorted in the manner before mentioned,—the eyes congested and suffused. There was not, for the most part, active delirium,—but perversion of intelligence rather, and dulness and indifference to outward objects, from which condition the patient could be roused and made to answer questions consciously. The tongue had, at first, a white creamy coat, which, in the course of the disease, became yellowish or brown at centre and base, more rarely dry and cracked towards the close. There was loss of appetite, but, usually, not very urgent thirst. The heart's action was irregular, sometimes tumultuous, to which the pulse did not always respond, being mostly accelerated, but not strong,—occasionally intermittent. The bowels were regular, or inclined to diarrhœa and costiveness by turns. Petechiæ were not an unfrequent manifestation,—in appearance almost identical with the true typhus eruption, and, like that, seen upon every part of the body, except the face,—persistent on pressure, varying in hue from the darkest aspect of the measles to that of the true petechial spots imbedded in the skin. Purpural spots, abundant and of large size, were sometimes present, and were always a grave symptom. There was no marked tenderness of the epigastrium or abdomen. In the cases of longer duration, there was, in the last stages, sordes on the teeth and lips, and involuntary evacuations of urine and fæces. The patients often die without much symptoms of ex-

haustion. The decubitus was mainly on the side, with the head not unfrequently thrown back,—the neck rigid and stiff, —a partial opisthotonos. There was, uniformly, great restlessness and jactitation. As an accompaniment and occasionally a sequel to the disease, iritis was several times observed. So, also, was synovitis,—and, in one instance, pericarditis. The above are among the more prominent and constant symptoms, —but there was a considerable diversity in the manifestations of the disease during its progress, whether towards a favorable or fatal result; in no one case do I remember to have seen even a majority of those I have enumerated present.

"Singular and anomalous symptoms were sometimes noticed. Dr. Jewett, Surgeon of the 51st Mass. Regt., to whom I am indebted for a clear and able account of the disease, as it occurred in the troops under his care, reports that 'in a single case, a pleasing delirium was noticed, with loquacity and decidedly erotic desires, accompanied with priapism more or less extensive during the greater part of the disease.' This peculiarity, he adds, was noticed in about one-third of his cases. Dr. Cowgill alludes to the same fact. Dr. Jewett noticed the decubitus upon the dorsum among fourteen cases which occurred in the 51st Mass. Regt. in but a single instance. 'In all the others,' he observes, 'the patients lay upon the side till near the close of life.' 'In a few cases, and those the most severe ones,' he also remarks, 'no moan or sound of any kind escaped the patient, but there was a fearful restlessness, which ceased only at death; in others, there was much moaning.' Stiffness of the muscles of the face, before alluded to, amounting at times to spasm, was almost pathognomonic. In some form, this affection was present in nearly all the cases sent in by Dr. Ware; it was common in those treated in Academy Hospital. Dr. Jewett speaks of it as being present in fully one-third of the cases which came under his observation, 'there being,' as he says, 'more or less stiffness of the muscles of the neck and back, with opisthotonos,—in one case, paralysis of the glosso-pharyngeal nerve, and, in two others, eversion of the eyes and occasional squinting.'

"The *duration* of the affection varied from a period of less than thirty-six hours, to that of three, four, or six weeks, and even longer. According to my own observation, the more usual duration has been from three or four to seven days."

From the foregoing detail of symptoms, given by one of the most accurate observers of the present time, it is evident that

the cases of disease called "Cerebro-Spinal Meningitis," vary much in their symptoms, rapidity of their progress, and in their results. It would seem that the most constant and characteristic symptoms are, sudden and severe pain in the head and back; great restlessness, especially in paroxysms; either mental depression or delirium; more or less rigidity of the muscles of the neck, and often of the back and extremities; and a hurried and variable condition of both circulation and respiration. The disease is often so rapid that it terminates fatally during the second or third day after the attack, while, in a few instances, it lingers several weeks. The *post mortem* appearances are almost as variable as the symptoms during life. In a majority of cases, a sero-purulent fluid is found in the ventricles and under the base of the brain, with a white crudy or membraneous exudation on the surface of the pia mater, constituting evidence of a rapidly suppurative inflammation; but, in other cases, no trace of disease is visible in any part of the brain or its membranes. Thus, in one case related by Dr. UPHAM, the only important pathological condition present on the *post mortem* was the existence of six or eight ounces of a sero-purulent fluid in the pericardium. In other cases, the lungs suffer most, and are often found extensively congested or hepatized. When the disease prevails, epidemically, its course is, generally, more rapid and fatal than almost any other disease with which the practitioner has to contend. We were informed by a medical friend, a few weeks since, that in one locality in the southern part of Indiana, an epidemic had prevailed during the past spring, of such severity that more than sixty deaths took place in the practice of a single physician within a few weeks. The more prominent symptoms, as described to me, were, sudden and severe prostration, with fever, soreness and stiffness in the fauces and muscles of the neck; pain in the head, neck, and chest; suffusion of the eyes; frequency of pulse and respiration; more or less muscular rigidity; delirium; petechial or purpuric spots on the surface; and death, generally, in from two to six days.

It will be remembered that, about twenty years since, a very

fatal epidemic prevailed in many parts of the Middle and Western States. It was styled the "Black Tongue," in the newspapers. As it appeared in the interior of New York, the great majority of cases presented all the characteristics of a malignant erysipelas,—attacking, first, the throat and extending rapidly over the face, head, neck, and sometimes a large part of the surface of the trunk of the body; but, in numerous instances, instead of developing external erysipelatous inflammation, the soreness of the fauces was quickly followed by delirium; muscular twitchings or rigidity, especially in the muscles of the neck; frequent pulse; hurried and irregular breathing; restlessness; great prostration; and death. In Michigan and other highly-malarious districts, the latter form of the disease was the most prevalent. In all these cases, where *post mortem* examinations were made, sero-purulent effusions, membranous exudations, and the indications of inflammation were found in the ventricles, and under the base of the brain, and on the medulla oblongata. Hence, in the localities in which this form of disease was present, it came to be recognized and described as an epidemic,—cerebro-spinal meningitis. During the prevalence of that epidemic, we were practicing in Binghamton, N. Y., and but few cases occurred in that town. During the whole fourteen years that we have resided in Chicago, no epidemic of this disease has prevailed in the city or its immediate vicinity. From the middle of March to the first of June, of this year, cases of erysipelas were of much more frequent occurrence than usual; and many of the cases were accompanied by symptoms of unusual malignancy. About the middle of June, we were called in quick succession to such a number of cases presenting symptoms of cerebro-spinal inflammation, that we became apprehensive that they formed the beginning of an epidemic prevalence of the disease. The three following cases will sufficiently illustrate both the symptoms and treatment of the disease as it has presented itself, in our practice, during the last thirty days:—

Case I.—A boy, aged about 12 years; nervous temperament, and rather feeble constitution, was attacked with headache

sufficient to cause him to leave the school-room on the 13th of June. The next morning he was better, and made a visit to some friends a few miles in the country. He returned home on the afternoon of the 15th; and, after walking from the rail-road depot to his father's residence, he complained of feeling tired; and, in the evening, was attacked with violent pain in the head, neck, and back,—but most severely in the head. I saw him at 9 o'clock the same evening: I found him lying partly on his side, with a sad and anxious expression of countenance; skin dry and moderately hot; pulse 120 per minute, but soft; tongue slightly coated; and bowels quiet. He complained of severe pain in the head, with soreness of the throat and stiffness of the muscles of the neck. There were frequent muscular twitchings in the extremities, with nausea and efforts at vomiting whenever he attempted to assume the upright position. The parents thought the sickness was caused by injudiciously eating fruit in the country. They were assured, however, that the symptoms strongly indicated a serious degree of irritation in the base and central parts of the brain.

About three hours later, a severe paroxysm of general convulsions occurred, followed by increased rigidity of the muscles of the neck, constant tossing of the arms, moaning, redness of the eyes, and complete stupor, with dilitation of the pupils. Five hours later, he remained unconscious; conjunctiva injected and pupils dilated; head moderately hot; pulse 130 per minute, and weak; bowels had been freely moved; the extremities cool, and lips pale; more decided rigidity of the muscles of the neck; and slight drawing of the head to one side; and almost constant irregular action of the muscles of the extremities.

Seven hours later, the general symptoms remained the same, except the constant rigidity of the muscles of the neck had extended also to those of the shoulders and upper extremities, fixing the arms firmly against the sides of the chest, and the forearms moderately flexed; but the lower extremities were still being constantly tossed about. Six hours later, all muscular agitation or tossing had ceased, but some rigidity of the muscles of the neck and arms remained; the pulse had become extremely

frequent, variable, and weak; the respiration irregular, with mucus accumulating in the air-passages; slight involuntary discharges of both urine and fœces; deglutition suspended. Respiration, circulation, and muscular action continued steadily to diminish until the patient died, about thirty-six hours from the time that his symptoms attracted serious attention. No *post mortem* examination was allowed. The treatment of the case consisted in cold applications to the head, a pillow of pounded ice to the occiput and back of the neck, a mercurial purgative, followed by moderately full doses of iodide potassa and belladonna; and, after the first eighteen hours, quinine and other remedies were prescribed; but the difficulty of deglutition had become such that very little was actually swallowed.

Case II.—I was called to see Mrs. H., a native of Ireland, aged about 36 years, the mother of several children, on the afternoon of June 17th, 1863. Found her suffering intense pain in the head and upper part of the spine; anxious expression of countenance; position dorsal, with inclination to right side; rigidity of the muscles of the neck and flexors of the hands and feet, so as to draw the thumbs into the palms of the hands and fix the fingers and toes in a state of semi-flexion; pluse 120 per minute and small; surface of the head and trunk above the natural temperature, but extremities cool; respiration hurried and somewhat irregular; tongue covered with a white moist coat; and bowels quiet. On inquiry, I learned that the patient had complained of pain in the head for two days past. Twelve hours previous to my visit, the pain in the head had become greatly increased, accompanied by a general convulsion, lasting only a few seconds, and since which time she has lain in the condition she was found on my arrival. I should not omit to state, that the convulsive paroxysm in the morning was immediately preceded by vomiting, and that nausea and efforts to vomit had occurred several times during the day, more especially when any attempt was made to change the position of the patient. I directed the head and back of the neck to be covered with a sac of pounded ice, and dry warmth to the extremities. Directed to be taken internally, calomel, 3 grs., bi-

carb. soda, 3 grs., every two hours until the bowels were evacuated. I also directed fifteen drops of tincture of belladonna to be given in connection with one drachm of the *sulphite* of lime every two hours. Eighteen hours after the commencement of this treatment, I found her with less pain in the head and back; expression of countenance less anxious; muscular rigidity of the extremities less, but not entirely gone; fœces and urine had both passed freely in bed, without the control of the patient; and the pupils were moderately dilated, but whether from the effects of the belladonna or the disease it was not easy to decide. The calomel and soda was discontinued; the sulphite of lime and tincture of belladonna continued in the same doses, but at intervals of once in three hours, and six grains of iodide of potassa dissolved in camphor water given half way between. The cold applications were also continued to the head and neck.

June 19th.—3 o'clock P.M., all the symptoms improved. The rigidity of the muscles of the extremities had entirely ceased; the pain in the head and the stiffness of the muscles of the neck continued slightly; pulse 90 per minute; fœces and urine passed naturally; and patient cheerful. The pupils of the eyes were dilated and the throat dry, evidently, as the effects of belladonna. The doses of sulphite of lime and belladonna were now reduced to half a drachm of the first and eight drops of the last, given every four hours, alternated with the iodide of potassa. The ice cap to the head and neck was exchanged for simple cloths wet in hydrant water. Animal broth given in small quantities, at short intervals, for nourishment.

June 20th.—The patient appears to be entirely convalescent. While lying quiet, she feels no pain, and shows no stiffness or rigidity of the muscles, though there is a general of soreness in the flesh, great weakness, and, when she moves, the head is light and giddy. Continued the sulphite of lime and belladonna at intervals of once in eight hours, but omitted all other medicines. Allowed a more liberal use of nourishment, consisting of beef-tea, milk-porridge, &c.

June 22d.—Found the patient sitting up half an hour, and convalescence fully established. Ordered twenty drops of

muriated tincture of iron to be taken at each meal-time as a tonic, and omitted all other medicines. The patient has since continued well.

Case III.—June 17th, at 4 o'clock P.M., I was called urgently to 114 West Jackson Street, to see a child about two years old, reported to have "cramps." I found the child lying in a recumbent dorsal position, inclined towards the left side; the face flushed; eyes suffused; head hot, and drawn moderately to the left side by rigid contraction of the muscles of that side of the neck; respiration hurried, and sometimes moaning; pulse small, tense, and frequent; frequent muscular twitchings, and, apparently, delirium. I learned that, during the latter part of the preceding night, the child had become hot, restless, and subject to sudden startings. The restlessness and fever increased until about 9 o'clock A.M., when there was a moderate general convulsion, after which, the child remained in the same condition as I found it at 4 o'clock P.M. I prescribed the same remedies, in all respects, as in Case II., only suiting the doses to the age of the child; and the result was the same, namely, the complete recovery of the patient in about one week.

During the two weeks intervening between the 15th and 30th of June, four other cases of a similar character occurred in my practice, two adults and two children. All but one were in the western division of the city. The symptoms presented in these cases led me to regard them as genuine attacks of cerebro-spinal disease; while the rapidity with which they followed each other, and preceded by an unusual prevalance of erysipelas, caused me to seriously apprehend the commencement of an epidemic cerebro-spinal meningitis. Hence, after the speedy termination of the first case, I used, in the treatment of subsequent ones, such remedies as previous reflection had satisfied me would be most likely to prove beneficial in that disease.

From all the facts I have been able to gather concerning the symptoms, progress, and *post mortem* appearances in the epidemics of cerebro-spinal meningitis that have occurred at various periods of time and in numerous localities, I am constrained to regard the disease as an asthenic inflammation of the cerebro-

spinal nervous centres with their investing membranes, accompanied by a highly *septic* condition of the blood and consequent rapid failure of the vital properties throughout the whole organization, with the equally rapid formation of sero-purulent effusions at the seat of local inflammation. That such a septic condition of the whole mass of the blood actually exists, is proved by the frequent appearance of dark red and purpuric spots on different parts of the cutaneous surface, the early formation of sero-purulent effusions and infiltrations, and the rapidly fatal results. Further observations may show that it holds the same relation to erysipelas as is claimed for epidemic purpural peritonitis. If we admit the correctness of the pathology just stated, it affords a basis for three rational and well-defined therapeutic indications, viz.:—

First.—To introduce, as rapidly as possible, such remedies as will neutralize or destroy the *septic* condition of the blood.

Second.—To counteract or diminish the vascular turgescence or accumulation of blood in the cerebro-spinal centres.

Third.—To maintain the depurative processes by which the system is relieved from the presence of effete and offending matter, by increasing the activity of the excretory organs.

The experiments of Dr. POLLI, with the sulphites of lime and soda, to which allusion has been made in former numbers of this Journal, together with the experience I had acquired with the first of those salts in the treatment of malignant erysipelas, caused me to resort to the sulphite of lime as the agent most likely to efficiently counteract the septic state of the blood, and fulfil the first indication named. If one of those severe and fatal epidemics, such as has been described as prevailing in some parts of the country, and, quite recently, in the vicinity of Philadelphia, I should, not only, exhibit the remedy in full doses to those actually attacked, but should give moderate quantities to such well persons as were immediately exposed in families and houses where some were already sick, to test its prophylactic virtues. While using this or such other remedies as experience may prove to be efficacious, for the purpose of correcting the septic or faulty condition of the blood, I should

endeavor to lessen the local inflammatory action by such remedies as increase the *contraction* of the cerebro-spinal capillaries, and thereby lessen the accumulation of blood in those parts. For this purpose, belladonna given internally, in such doses as will speedily induce, in a moderate degree, its specific effects on the pupils of the eyes and the fauces, aided by the constant application of pounded ice to the occiputo-cervical region, constitutes our most reliable resource; for I am fully satisfied that the views of Dr. Brown Sequard, in relation to the action of belladonna, ergot, &c., are correct; and, if so, all the preparations of opium and alcoholic liquids, by their tendency to dilate the cerebro-spinal capillaries, and thereby favor the accumulation of blood, are decidedly *contra-indicated* in the treatment of the disease under consideration. In a disease so severe and rapid in its course, we should not only endeavor to correct the morbid condition of the blood, and lessen the accumulation of blood in the parts involved in local inflammation, but the excretory functions should also be carefully maintained, for the double purpose of aiding to lessen the determination of blood to the head, and of favoring the expulsion of any effete or poisonous material that may exist in the system. For this purpose, I prefer calomel and bi-carbonate of soda, sufficient to move the bowels, to be followed by full doses of iodide potassa.

Such are my views, very briefly expressed, concerning the nature and treatment of the epidemic form of cerebro-spinal meningitis.

An Organic Base without Oxygen.—M. Rieth has extracted an alkaloid from the bark of the *arariba rubra*, a Brazilian tree. This new alkaloid, which has received the name *aribine*, possesses the remarkable property of containing no oxygen, being the first instance of a solid, non-oxygenous, organic base in nature. The composition of aribine is expressed by the formula C46 H20 N.—*Rep. de Pharm.*

ARTICLE XVIII.

DISLOCATION OF ANKLE, WITH COMPOUND FRACTURE OF THE TIBIA AND FIBULA.

Reported by JAMES S. KING, M.D., of Lemont, Ill. Formerly Resident-Physician St. John's Hospital, Cincinnati, Ohio.

July 24th, 1862.—Was called with Dr. HALL, of this place, to see M. S., a healthy Irish boy, æt. 20, reported to have broken his leg. On arriving at his residence, we found the limb in the following condition:—The tibia protruding about two inches through a transverse lacerated wound, extending about an inch on either side of internal malleolus, which remained *in situ* upon astragalus being fractured from tibia. Fibula fractured about two inches above articulation, lower fragment being driven inwards and upwards; upper portion of bone protruding through a longitudinal lacerated wound of about an inch and a-half in length, commencing just above external malleolus and extending upwards; foot turned outwards and at nearly a right angle with leg; anterior and posterior tibial arteries uninjured. Patient's general condition good,—pulse but little accelerated; and he seemed in good spirits notwithstanding the severity of his injuries, caused by the falling of a horse upon him in the quarry, about one hour previous to our seeing him. His ankle was caught between the side of the horse and the sharp corner of a rubble stone.

As his parents were decidedly opposed to having his limb amputated, we determined to try conservative surgery upon the case; and proceeded to reduce dislocation, having first placed the patient fully under the influence of chloroform. We had considerable trouble to get the parts into proper position, but at last succeeded, without sawing any of the bones. Placed limb in Pennsylvania Hospital fracture-box; ordered cold water dressing; left opiates to allay pain; and requested consultation for next day, which being consented to, we telegraphed for Dr. DAGGET, of Lockport.

July 25th.—Found patient feverish,—pulse about 100; com-

plains of great pain in ankle, notwithstanding the opiates. Gave him morphine, nitre, and ipecac; ordered a cathartic. Dr. DAGGET thought we had best continue cold water dressing to limb,—thought that the limb could be saved.

July 26th.—Patient about as yesterday. Continued treatment. His mother now raised a hue and cry about the doctor's bill. Said, she would not have two doctors visiting him every day. The case was passed to my care.

July 27th.—Patient less feverish; wound looks well; does not complain of so much pain.

July 31st.—I have visited patient every day since 27th, he is doing well,—but very little febrile action; but little pain in ankle,—wound in good condition. The old lady now declared I should not visit the boy any more until she sent for me. I tried to convince her of the necessity of my attendance, but she persisted in her determination, and I left the case to nature and an Irish woman,—very incompatible agents by the way.

August 5th.—Was sent for in great haste: boy reported very bad. I refused to go, except in company with Dr. HALL, to which they very reluctantly consented,—the doctor's bill being the bugbear. We found patient with high febrile action,—pulse 120; limb hot and swollen; wound covered with unhealthy looking pus; patient restless and complaining of great pain in joint. The old lady had discontinued the use of water dressing after we left the case. We dressed the limb; ordered warm applications to wound; gave patient Doveri, ipecac, and nitre; ordered lemon-water and beef-essence. Requested that Dr. DAGGET should see the case on next day.

August 6th.—Repaired to house of patient, in company with Dr. DAGGET. Prepared to amputate limb, if condition of patient was not better than on yesterday. On arriving, found patient comparatively comfortable; but little febrile action; limb not so much swollen,—suppurating freely; appearance, every way an improvement upon yesterday. On consultation, we determined to try conservative surgery a while longer. We gave the old lady full directions as to what she must do, after which, she concluded that she could get along without us,—said, she

would send for me if she needed me. I told her, I would visit the boy as I thought best or not at all, to which she would not consent, and I left the case.

December 11th.—M. S. came into my office, walking without crutches. Upon examination of limb, found the foot somewhat turned inwards upon ankle, caused by the limb having been allowed to lie in that position in fracture-box. Says, he has but little pain in joint, but that it it very weak. Found an opening of about a-half of an inch in extent over internal malleolus, from which there is a constant but small discharge of pus, caused by the presence of dead bone which he refused to let me remove; also found a small opening over region of fracture upon the outer side of limb, from which he says he took quite a large piece of bone about a month ago. He has been walking without crutches about six weeks. After I left the case, he had no treatment, except that his mother had followed the directions we had left; and he had been to Lockport once since he was able to walk.

July 3d, 1863.—M. S. came into my office. On examination of limb, found foot in about same position it was last December. Motion at ankle-joint antero-posteriorally about one-fourth of what it is in normal condition of joint, laterally, about as of other limb. Wound over internal malleolus entirely healed; says, that several pieces of bone came out of the wound about a week after I saw him in December. Upon examination of the bones which he gave me, I found them to be the internal malleolus, together with splinters of bone from tibia. Wound upon exterior of limb still open, from which there is a small discharge of pus, caused by some portions of dead bone, but, as it does not pain him, will not permit me to remove it. He now gave me the bone which came out of his wound last November; find it about half of an inch in length, and to be a portion of the lower fragment of fibula. He says, he now works on the farm, finds joint still weak, but it is improving all the time; sometimes has considerable pain in it, evidently, of a rheumatic character. Says, he would not give the present limb for a hundred wooden ones.

Selections.

LECTURES ON DISEASES OF THE EYE.

By HENRY D. NOYES, M.D., Assistant-Surgeon N. Y. Eye Infirmary.

DISEASES OF THE LACHRYMAL APPARATUS.

Diseases of the Lachrymal Apparatus.—The lachrymal sac and nasal ducts are the parts of the derivative apparatus which are most frequently diseased. The primary affection is usually *catarrh* of the mucous membrane.

This may originate from inflammation of the eyelids or of the Schneiderian mucous membrane. It often occurs in young children of a scrofulous constitution simultaneously with catarrh of the nasal passages, and it may take place as an acute attack at any period of life. It more usually comes on gradually, its incipient stages being scarcely observed. The secretion of the mucous membrane, which is naturally thick and glairy, becomes more consistent and opaque; it accumulates in the sac, and gives rise to a slight fulness at the inner angle of the eye. Pressure causes the swelling to subside by pushing the mucus into the nostril or into the conjunctival sac. There will be slight congestion of the palpebral conjunctiva. The eye will be filled with tears, and, on exposure to the wind, they will flow copiously over the cheek. The mucous membrane of the sac and duct is swollen and spongy, and the calibre of the nasal duct is diminished. The valvular folds of the membrane become tumefied, and oppose a decided obstacle to the flow of fluid into the nasal fossa. Hence, before organic stricture has formed, pressure over the distended sac will often cause its contents to regurgitate upon the conjunctiva.

Soon, however, the infiltration of the mucous membrane assumes a more organized form, because this tissue is a fibro-mucous layer. Fibrous tissue appears in it, and constitutes a permanent stricture. Its situation may be at any point of the duct, or through its whole extent; its common seat is at the valvule which marks the beginning of the duct. The formation of such a stricture is a very slow process; and, during this time, the patient is more or less annoyed by catarrh of the lachrymal sac. The sac becomes more and more distended, and its lining membrane more and more deeply diseased, giving rise to an abundant secretion of muco-pus.

It may attain an extraordinary size,—a hazel-nut might, in many instances, be accommodated within it. Pressure on this tumor evacuates its contents chiefly through the puncta. It may be painless, and continue for a long time in a passive state. But suddenly a new phase presents itself: acute inflammation is set up, and abscess forms. This may occur at various stages of the malady, either before or after the lachrymal sac has become distended enough to deserve the name of mucocele. The abscess forms in the loose areolar tissue around the sac, and soon ulcerates into it. It produces great swelling of the integuments. Especially in the sulcus, below the lower lid, the skin is tense, red, and hot; pain is severe until the pus has diffused itself into the areolar tissue. The pus tends to run along the loose tissue of the lower lid. If left to itself, the skin finally ulcerates, and the matter is discharged. Relief follows, but this is too often only the beginning of sorrows. From the opening, both pus and tears escape, showing a communication with the lachrymal sac. An ulcerated opening is very liable to remain patent, and result in fistula lachrymalis. This becomes not only a disfigurement but a source of continual annoyance. A succession of abscesses may occur; or the opening may close, pus form again, and make for itself a new exit, the suppurative process continuing for weeks.

A lachrymal fistula is not always an offensive opening, filled with fungous granulations; it may heal so far as to leave but a minute, almost capillary, aperture. Even in this state, it gives great trouble. Tears flood the eye, the conjunctiva is inflamed, and use of the eye is almost impossible.

I need not attempt to describe these cases any further. They are of chronic character, and have no tendency towards cure. If the nasal duct is obstructed, and this need only be a partial obstruction, it is the sufficient cause of a long train of annoyances, and of liability to intercurrent attacks of inflammation. Sometimes the nasal duct becomes totally occluded; it may be filled by bony tissue. The mucous membrane may be converted into pyogenic membrane. The lachrymal or maxillary bones may become carious. St. Yves speaks of operating for caries of the bones at the bottom of the orbit, and of the danger of destroying the eye in attempting to cure lachrymal disease.

Treatment.—In the early stages of catarrh of the lachrymal mucous membrane, the disease is easily managed. Astringent or caustic lotions are often applied to the eyelids. They allay the accompanying conjunctival inflammation. The very small quantum which enters the puncta can hardly be said to have a curative power over the lachrymal mucous membrane. To pro-

duce an effect upon this surface, an astringent wash must be injected through the canaliculi by Anel's syringe. The passages may first be washed out with warm water, and then the astringent introduced. In more chronic catarrh, and where the spongy mucous membrane partly closes the nasal duct, a weak solution of nitrate of silver may be injected, using it from five to ten grains to the ounce. In injecting nitrate of silver solutions through a canaliculus, care must be taken to prevent regurgitation through the other canaliculus, by squeezing it with forceps whose blades are not toothed or too rough. If the fluid can be forced into the nose, and its subsequent injection becomes more and more easy, this proceeding may cure the disease. If, however, there be great difficulty in forcing the fluid into the nose, and if there be no improvement, after a few trials, the presumption is, that stricture of the nasal duct has begun. It always requires considerable force to use the fine-pointed syringe of Anel, and the normal resistence it offers must not be mistaken for resistence in the lachrymal passages.

Upon this presumption of nasal stricture, Mr. Bowman's method of treatment must be adopted: the inferior punctum and canaliculus should be laid open, and a probe inserted into the masal duct. It is best to begin with No. 3 or 4, as they are less liable to wound the lining membrane. The largest size should be passed that will enter easily. The probe may, the first time, be left *in situ* for twenty minutes; then the sac and duct may be syringed out. It will often be found, in recent cases, that the probe will need but a few introductions, at intervals of two or three days; and the astringent or caustic injection will speedily remove the lingering catarrh. On the other hand, in more protracted cases, the stricture will be found less yielding: it gives a grating sensation as the probe goes through it. The amount of muco-purulent secretion may be small; probe No. 3 or 4 may enter, but No. 5 not without violence. Such a case requires persevering dilitation. Advance from a smaller to a larger size must sometimes be made gradually, at other times rapidly. The probe may be introduced at intervals of one to three days, according to the sensibility of the parts, and may be left in place half an hour at a time. Even where the largest size has been reached, it should be passed a number of times, at intervals of a week, to prevent contraction of the stricture. There is much the same propensity to contraction in strictures of this canal as in strictures of the urethra. In fact, the philosophy of treatment in the two cases is identical. The time necessary to effect a cure is, of course, variable; it will be from one to six months.

The attempt is to restore the tissues to their healthy condition; and, to do it, the mechanical obstacle (the stricture,) must be overcome, and permanently, while the chronic inflammation of the mucous membrane is to be set aside. The mechanical treatment has a great influence in abating the chronic catarrh, because the irritating morbid secretions are thus set free. Often no other proceedings are necessary than passing the probe. Injections are needed only where there is profuse catharrhal secretion distending the lachrymal sac and irritating the conjunctiva.

A few words as to the manner of introducing probes:—Each end of the instrument has a different size; and the most convenient kind has a shield soldered to the middle, upon which the numbers are stamped, and which enables the probe to be handled more readily. The sizes were, originally, from one to six. I have found that larger probes can be passed, and have added Nos. 7 and 8. These large sizes require the canaliculus to be divided quite up to the lachrymal sac.

In using the probe, it must be curved to correspond with the configuration of the face. Simply bending it for half an inch from its tip is not enough, neither is the same curve adapted to all cases. The height of the nose and the prominence of the brow will greatly alter the depth and course of the lachrymal duct. The probe then must have a large curve, that is, it should be an arc of a circle, whose radius will be shorter or longer as the case requires. The larger sizes, from 5 to 8, must be of pure silver; the smaller sizes should be alloyed to give them stiffness. It is better to stand behind the patient, with his head resting against your person; tell him to look upwards; draw the lower lid downwards and outwards with one hand, and with the other use the probe. The concave side of the probe must be kept forwards, the point carried horizontally along the divided canaliculus until, entering the lachrymal sac, it strikes against the opposite bony wall. It is sometimes difficult to get thus far,—the mucous membrane of the canaliculus may be folded over the probe, or the passage may be too narrow. When this is the case, the skin of the lid will be wrinkled and pushed inwards as force is applied to the instrument. To avoid folds of the mucous membrane, it is well to make the point of the probe press forward as it is pushed along. If the passage be too narrow, it must be cut with the knife, or a smaller size taken. If the point strike the inner wall of the lachrymal sac, (and this will be recognized by its solid resistence,) it should be held fixed while the other end is brought to the vertical position.

When this change is made, and not until then, should the probe be pushed downwards. If it has been properly curved, it will not press against the brow in going down, nor meet any resistance, except from the stricture. But, if the probe be too straight, it presses painfully against the eyebrow, the point scrapes the mucous membrane of the nasal duct, and there will be great risk of making a false passage. In pushing the probe downwards, its point should be directed a little outwards towards the ala nasi. In following these rules strictly, as to direction and shape of the probe, considerable force may be safely employed, but no violent efforts should be made. If one probe will not pass readily, try a smaller size. When the probe is fully down, the shield comes opposite the eyebrow, and the probe points to the ala nasi. If the upper end pitches forwards, or the direction deviates from the above, a false passage has been made. This begins usually at the top of the nasal duct, and is made outside of the superior maxillary bone, under the tissues of the cheek. Fortunately, no serious harm is thus inflicted, if the mistake be not persisted in: the wound will heal in a few days, and the attempt may be repeated. Ecchymosis of the lid or cheek often betrays this error.

The intermittent dilatation by probes must be persevered in for weeks and months,—the intervals becoming longer as the tendency to relapse diminishes. Very satisfactory results are thus obtained. Patients sometimes get tired of repeated probing, and, when they have been on the point of giving up treatment, in disgust, I have resorted to another method of accomplishing dilatation of the stricture. I have taken a piece of lead-wire of the same size as the probe which can be passed, rounded one end to make it smooth, and pushed this into the nasal duct; the upper end is bent at an acute angle, and hangs over the edge of the lower lid. This I have left *in situ* for one day or three days, and, in one case, for three weeks, without producing irritation of the eye. The stricture was kept dilated, and the epiphora ceased. I should not employ this method except on patients whom you can see at any time; but a few trials of it have given me a favorable impression of its value in shortening the duration of treatment and in making the dilatation more permanent.

This process of dilatation sometimes needs to be continued with astringent applications to the mucous lining of the sac, by a fine syringe, or by collyria dropped into the eye. More frequently such treatment is needless; the catarrhal inflammation abates, *pari passu*, as the obstruction yields.

Phlegmonous inflammation and abscess may take place either with or without stricture of the duct. When first it threatens, it may be aborted by applying two to four leeches over the sac, and by the assidious use of iced compresses. If suppuration cannot be avoided, employ warm fomentations, and make an incision into the sac as early as possible. I would urge the importance of an early opening; if no pus appears, the tension of the tissues is relieved, and the bleeding is serviceable: when suppuration shall take place, it will not undermine the skin, as it is prone to do when left to its own course. Be not stinted in the size of your incision, and aim to penetrate the sac. The best mode of doing the operation is, to stand behind the patient, who will be on his back or sit in a low chair, and use a straight bistoury. Put the point as nearly over the middle of the tendo oculi as the swelling will enable you to judge, holding the handle perpendicular to the plane of the face and turned a little outwards; thurst the point quickly backwards, so as to strike the lachrymal bone, and immediately carry it downwards and outwards. If the patient's head suddenly starts up as the knife enters, his movement makes the cut larger, and aids your purpose.

An abscess which opens by ulceration, or which has been too sparingly incised, is apt to fill up again, and require repeated incision. Sometimes it will linger along in this way for two or three months. It is then apt to degenerate into fistula lachrymalis. Fistula is not so likely to occur when an abscess is opened early and sufficiently. The cutaneous orifice of a fistula may be concealed by a thin layer of cuticle, or it may be pouting with fungous granulations. It may, in time, cicatrize, and contract to a capillary opening. The course of the fistula is sometimes crooked, but there is, generally, no difficulty in passing a probe through it into the lachrymal sac. If the fistula be recent, it may be closed by cauterizing it once, in two or three days, with a pointed crayon of nitrate of silver. Such are made by Squibb. But, if the fistula be old, and, in every doubtful case, there must first be an exploration of the nasal duct and lachrymal sac, to decide upon their condition. If their calibre and lining membrane are or may be made normal, then try to close the fistula. If there be a stricture, dilate it with probes *per vias naturales*, slitting up the canaliculus: do not attempt to dilate stricture through the fistula. But if the nasal duct be the seat of an unconquerable stricture, or be closed by ossific growth; if the lachrymal sac be enormously dilated, and its mucous lining have become a mere pyogenic membrane; if there

be caries of the adjacent bones; if fistula have lasted a long time; or if a patient cannot spare the time which may be needful to restore the passages to a healthy state,—another proceeding must be adopted. This is the obliteration of the lachrymal sac and upper portion of the nasal duct. Tavignot adopts the obliteration of the canaliculi alone, but I do not deem this sufficient, certainly not in bad cases. This proceeding was in use a hundred years ago,—it is described by St. Yves. In late years it has been revived by Desmarres, and it is now very generally adopted. But, you will ask me: if you totally occlude the sac and duct, what will become of the tears? Will not epiphora be more distressing than ever? Bear in mind that you have an incurable disease of the passages; they are in a state of perpetual inflammation; they keep up a chronic conjunctivitis, and reflect irritation upon the lachrymal gland. Hence, there is a constant hypersecretion of tears, as well as obstruction to their natural escape.

If you destroy the inflamed lachrymal mucous membrane, and shut up the cavity which is the seat of disease, you remove the cause which provokes chronic conjunctivitis and excessive lachrymal secretion. Soon the conjunctiva recovers a healthy state, and tears cease to flow more than to meet the physiological demand. The fluid for moistening the eye is, ordinarily, supplied by the conjunctiva, and a slight excess is evaporated. When in the house, or where nothing irritates the eye, a patient is entirely comfortable; but when exposed to wind or dust, and tears flow more freely, they must stand in the conjunctival sac, or overflow the cheek. In the latter case, a patient with obliterated lachrymal sac suffers inconvenience. But this is admitting what is true of a multitude of surgical operations: they do not restore the perfect performance of function, they only mitigate an evil. Resected joints are not so good as healthy joints, but they are far better than anchylosis.

But you will ask: Why not insert a style? Simply, because a style answers no better purpose than does occlusion of the sac. It is a foreign body, an unsightly object, and an annoying thing to wear.

Dupuytren's tubes are far worse than styles: they become impacted in the nasal duct, and, by causing absorption of adjacent bony walls, they sometimes travel far out of their intended place, and often provoke serious suppuration. They are utterly out of use. A similar but less amount of mischief attaches to the style as being a foreign body, while obliteration of the sac and duct accomplishes, at least, all that the style can.

Another objection may be made in the supposed deformity which such an operation must cause. A scar is left at the inner angle of the eye, which is sometimes sunken, but is always linear, and is never conspicuous. I have done the operation upon the lachrymal sacs of a young lady of seventeen years, without at all marring the beauty of her fair face.

The mucous membrane of the lachrymal passages may be destroyed in a variety of ways. The most elegant method is by the galvano-caustic,—but the apparatus is expensive, and very liable to get out of order. The actual cautery is used more frequently than any other proceeding; then a variety of potential cauteries are used, such as nitric acid, caustic potash, butter of antimony, chloride of zinc, and nitrate of silver. In the Infirmary, we resort usually to the hot iron. The cauteries are of various shapes, bulbous or pointed, and one is bent at an obtuse angle within two inches of the point, to enable it to be thurst down into the nasal duct without burning the skin of the brow. It also has a bulb for retaining its heat. The irons are heated most conveniently in a dentist's furnace-lamp. They should not have more than a very dull red heat; it is better that they should not be at all red, than be too hot.

It is always necessary to use an anæsthetic; and, for this operation, I prefer sulphuric ether. The sac is laid freely open from its uppermost part across the tendon of the orbicularis, down a little distance upon the cheek. The incision must be at least an inch long, and its lower end curve outwards a little. When the sac is fully exposed, wait for the bleeding to stop,—ice may be applied to save time. The operation is much delayed by the copious bleeding which always occurs from capillary vessels; I have attempted to check it by persulphate of iron, but was more embarrassed by the coagula than if I had not used it. It is better to trust to ice, and pressure, and spontaneous coagulation. When the wound is dry, have it stretched open by retractors. These may be sharp hooks to catch the skin, or leaden spatulæ. It is well to use one leaden spatula which will at the same time cover the eyeball from harm.

The cauteries are applied carefully to the whole of the sac, and to as much of the nasal duct as can be reached, until the mucous membrane is well blackened. It is also well to introduce a fine cautery into the canaliculi, but is not always necessary.

Sometimes the reaction from the operation is smart. I have seen acute conjunctivitis and chemosis follow; there will always be considerable swelling of the lids. But, generally, the inflamma-

tory reaction is moderate. Compresses dipped in iced water are the proper dressing.

The cauterization may not have been thorough, and a small fistulous opening will, after three or four weeks, remain. Unless the cavity is totally obliterated, the operation will be fruitless. If there should be a remaining pocket, a bit of solid nitrate of silver may be pushed into it and left there. This will usually suffice.

The heated iron produces less reaction than nitric acid or caustic potash; it can be more carefully managed, and it is not so liable to cause superficial necrosis of the bony walls. But, in private practice, the actual cautery would be looked upon with horror, and you may have to employ nitric acid or potassa fusa.

Even solid nitrate of silver is said to be adequate: a piece is put into the sac and left to dissolve. After a week or two another piece is thrust in, and this is repeated until occlusion is obtained.

You need not be alarmed if the bony walls should be denuded, and superficial necrosis occur. The healing will be protracted, but I have never seen serious ill effects result.

The time required for a cure by the actual cautery is about four weeks. I can only repeat, that the operation affords great relief, that it has, in almost all cases, been gratifying to myself, and that, while some objections to it are unfounded, those which do lie against it are such as may be urged against many well-established surgical operations.

One remark remains to be added. In young children, you are often unable to employ operative treatment,—probes and occlusion of the sac are out of the question. You may effect much by giving them cod-liver oil, iodide of potassium, by using astringent collyria, and by invigorating the general health in every practicable way.

Adults are sometimes averse to operative interference. You can alleviate the annoyance of their complaint by showing them how to empty the distended sac and avoid irritating the eye. Teach them to press with their fingers or handkerchief upon the lachrymal sac, and absorb the fluid which regurgitates by simple pressure, without rubbing the eyelids. Friction of the eyelids is very irritating, while gentle pressure empties the sac, dries the eye, and gives relief. It is important to keep the sac empty,—accumulations of muco-pus aggravates the inflammation and irritates the conjunctiva.—*American Medical Times.*

LECTURES ON NEW REMEDIES AND THEIR THERAPEUTICAL APPLICATIONS.

DELIVERED AT THE
NEW YORK MEDICAL COLLEGE AND CHARITY HOSPITAL.
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ON THE USE OF VERATRUM VIRIDE AS A MEANS OF ARRIVING AT A CORRECT DIAGNOSIS IN DISEASES OF THE HEART AND LUNGS.

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GENTLEMEN:—I purpose to-day to relate to you the symptoms I found present in a case of disease of the heart. I will then give you the treatment I adopted for their amelioration, and, as far as time will permit, explain to you the action of the remedy used, and how, by this action, a clear and correct diagnosis could be determined, when, previous to this administration of the remedy, it was almost impossible to arrive at an accurate diagnosis.

James Cunningham, æt. 40, a day-laborer. About four years ago he had acute rheumatism: since then he has complained of impeded and difficult respiration, accompanied with more or less palpitation. These symptoms have increased in severity, until at present he is hardly able to move. The first inspection of this man's face gives one a thrill of pain, for intense suffering is so plainly imprinted upon it: the eyes have a wild and anxious look, the mouth is partly opened, the nostrils are dilated; and these and other marked alterations from the aspect of the features while at rest, are all produced by one necessity, that of better respiration. In a word, we have dyspnœa. If we stop to count the breathing, we find he has from forty-seven to fifty respirations in a minute, and we see that this dyspnœa differs greatly in character from the dyspnœa of asthma or pneumonia; it is rather of a gasping, strangling character. The throat and chest are bare, the arms are rested and poised so as to give the muscles of the chest every opportunity to perform their functions. As you watch him, you see that he makes no effort at motion, or rather that he tries to avoid making the slightest effort, for fear it will increase his dyspnœa; that he even avoids speaking, and looks to others to answer questions for him. Sick as this man looks and feels, he is not in bed, but is seated in a large arm-chair, with his feet upon a pillow, and we learn, upon inquiry, that he has not lain down, or hardly been out of that chair for a week, and that during that time he has scarcely slept for a minute; that although intensely

sleepy, the minute his eyes close in sleep he awakes with a sudden start, and a gasp as if suffocation were imminent. As we sit quietly watching him for a few minutes, we see a drowsiness gradually creeping over him, we see his eyelids close, and for a moment or two we can fancy his breathing easier, and he looks as though he might sleep, but in an instant he starts and gasps for breath, and again that look of the horror of suffocation overspreads his face.

We see, then, that in addition to dyspnœa, or difficulty of breathing, he has *orthopnœa*, an inability to assume a recumbent posture during sleep without producing a struggle for breath.

Let us now attend to the state of the pulse. The moment the finger is applied to his radial artery, we find the pulse is a most peculiar one. Instead of the steady beat we find in health, we here have what is usually called a jerking or leaping pulse. It feels as though the impetus given had not been completed, and as two or three fingers are spread over any of the larger arteries, there is a serpentine, wriggling sensation conveyed to them, and this sensation, which may be felt, may be plainly seen, if any of the arteries, either large or small, be closely watched, and it will then be noticed that the arteries have assumed a very tortuous appearance. The bowels are costive, the urine is secreted in small quantities, and it is of a dark red color, containing large quantities of purpurate of ammonia. There is a dry, teasing, irritative cough. The feet and legs are much swollen, and we learn that the swelling has much increased within the last few days, and that it has progressed upwards. What do all these symptoms tell us? To a junior student they explain little of the cause of the disease, but to one of experience every symptom is full of information! The peculiar, serpentine, wriggling pulse, that I have described, is always indicative of one peculiar disease of the heart, and wherever you find this pulse you may safely pronounce that there is regurgitation,—aortic regurgitation. How shall we prove this to be the fact in this individual case? You will say, that ascultation and percussion will plainly settle this point! As with difficulty we get the man into such a position as to listen to the heart, we are struck with the tumultuous amalgamation of sounds and murmurs, and with the closest intensity and nicest perception we are utterly unable to state positively what we do hear. With a rapid respiration of fifty in the minute, and a pulsation too fast to count, how is it possible to arrive at anything like a correct diagnosis? We plainly hear an unnatural murmur, but it is

utterly impossible to define its character, or tell with which sound of the heart it occurs.

It is, precisely, in this state of disease that the medicine that I have mentioned, veratrum viride, is of such inestimable value to us, not only in ameliorating the symptoms, but in enabling us to arrive at a correct diagnosis. As this man is in a critical condition, and as the medicine we propose giving him is a powerful sedative, it will be necessary to give it with caution, and watch the state of the pulse from hour to hour. I will commence with a dose of three minims of the concentrated tincture, the formula for which I will give you hereafter. Upon returning in an hour, although the pulse cannot be counted, it is evidently more regular than before, the respirations are now forty-two in the minute, and the patient thinks he feels a little easier. We now give him two minims every hour, for three successive hours, when we see him again. The pulse can now be counted, 132 beats in the minute, but it requires great attention, or you easily loss the count; the respiration is certainly much easier, and is thirty-seven in the minute. The man says, he is already easier than he has been for a week, but he dares not trust himself to sleep for fear of the orthopnœal paroxysm. Leaving him now in the care of an intelligent friend, we shall not see him again till morning. As we see him at 10 A.M., eighteen hours since the administration of the first dose of veratrum viride, we find a very marked change. We learn that he took two minims every hour until midnight; he then felt a little nausea; and he has taken two minims every two hours since midnight. The pulse has gradually decreased in frequency, being now about ninety in the minute, and the respirations thirty-one. Since midnight he has slept at intervals of fifteen to twenty minutes at a time, and wakes up with a struggle. He has also stood on his feet several times to have his cushion shaken up: the urine has been passed in much larger quantity. I now direct that four minims of the tincture, combined with one-eighth of a grain of sulphate of morphia, be given him at 10, 11, and 12 o'clock, and I will see him again before 1 o'clock. You will find, as you use veratrum viride more frequently, that you will occasionally need to give it in full doses without inducing nausea, and, with this object in view, you will combine it with morphia. The morphia again has another adjuvant action: it lessens the number of respirations, when given in combination with veratrum, more readily than either remedy will do alone. And now, at 1 o'clock, in what state do we find our patient? He still sits erect in the chair, but his head has

fallen back, and he is sound asleep; the respirations are only twenty-two in the minute, and the irregular pulse, taking an average of three minutes, beats only fifty-five in the minute. Let us now gently awaken him, and examine the state of his heart and lungs by auscultation. We now find a very marked difference from the tumultuous sounds heard at our last examination, for as then all was indistinct and confused, now every sound and murmur can be distinctly appreciated with the greatest ease. There is no difficulty for the youngest student to now readily study and comprehend every normal and abnormal sound. We find, upon percussion, that there is marked hypertrophy of the heart, and that this hypertrophy is general, and has caused a downward subsidance of the organ, and, as is common with dyspnœa from other causes, there is a descent and flattening of the diaphragm. We find, upon further examination, that the severe dyspnœa has caused lung inflation or distention, and that the border of the lung overlaps the heart, which is another cause of downward subsidence. We now plainly hear a distinct murmur and regurgitation following the incomplete closure of the aortic valves, and as the movements of the heart, and the respirations also, are now slow, this imperfect closure of the valves, with the sudden and jerky flow of blood into a partially collapsed aorta, and subsequent regurgitation of blood into the ventricle, with the damming back of the whole current of the circulation, are plainly audible. A murmur is distinctly heard in the carotids, and the serpentine, wriggling movement, of which I have before spoken, can be most easily seen and felt in the arteries that approach the surface. I must not be too minute in my description of pathological conditions, but confine myself to my proper sphere,—the action of medicines. But I must give a brief description of the result of the treatment in this case. You will remember that, previous to the administration of the veratrum, we could hear but little by listening to the lungs. Now, we plainly distinguish that the dyspnœa which exists is not dependent upon want of air supplied to the lungs, but on want of proper circulation within the pulmonary vessels. We spoke of an irritating dry cough. The cough still continues, but not so incessantly as when we first noticed it; and it is not now dry, but there is quite free expectoration of viscid mucus; there is no pus with it, and the complete absence of pus alone is a strong symptom to assure us that no inflammatory action of the lungs was the cause of the dyspnœa, but mere passive congestion, caused by sluggishness of the circulating fluid. The kidneys now have secreted very large quantities of fluid, and it

is of a brighter yellow color. This is not because we have given diuretics, but owing to the relief we have given to the circulation, for previously the slow and imperfect passage of the blood through the kidneys prevented the draining off of the proper quantity of water, partly, because of the non-renewal of fresh blood to the kidneys in sufficient quantity to part with its water, and partly because the heart and lungs had not sufficiently metamorphosed or vitalized the blood to present it to the kidneys in quality to be eliminated.

We find our patient much relieved in all his symptoms. The dyspnœa is much relieved; the orthopnœa, for the present, has left him; the cough is less frequent, and, if you watch him, you see that it now scarcely troubles him if he does cough: the urine is free in quantity; he can move, and complains of feeling hungry: and all this relief has been brought about in twenty-one hours by the administration of thirty-seven minims of my concentrated tincture of veratrum viride! Now, how has this small quantity of medicine produced this amelioration? We have frequently before explained to you that veratrum viride is the best arterial sedative that we possess; that when judiciously administered, it regulates the action of the heart, and brings it to its normal standard. It lessens the irritability of the whole vascular system, and causes the blood to flow more readily and quietly. It does this not only by its action on the heart, but, as we have demonstrated by its action on the bloodvessels and upon the blood itself. Its sedative action upon the bloodvessels I have demonstrated in many instances, and I have witnessed a marked change in the character of the blood during the action of this remedy. These peculiar changes in the action of the heart and bloodvessels, and the alteration in the character of the blood, by veratrum viride, I must leave till another lecture. The action we notice in the case I have related is, a gradual subsidence in the rapidity of the circulation, and, consequently, a great relief from the oppressive dyspnœa. As the circulation becomes more quiet, we plainly notice a more thorough contraction of the aortic valves, and, although we have not in any way cured the organic lesion, we have, to a very marked extent, relieved the functional disturbance. And not only have we relieved our patient from intense suffering, but (whereas, when we first saw him it was utterly impossible, by ascultation or percussion, to form any diagnosis as to the extent or character of his disease,) we can now, while he is under the influence of our remedy, form a clear, accurate, and correct diagnosis, without difficulty and without danger.

I have, since 1856, been in the habit of preparing every patient, whose heart and lungs I have wished to examine, with small and proper doses of veratrum viride, and by this means I have been enabled to arrive at a clear and certain diagnosis of cases of incipient phthisis, pleuritis, pneumonia, diseases of the heart, etc., that I could not clearly diagnose without the previous preparation of the patient with this remedy, owing to functional disturbances or other exciting causes. There are many persons who are examined for these diseases, where it is almost impossible to arrive at any correct diagnosis in the early stages of disease, at which time *only* treatment can be expected to be of much avail, owing to even slight functional disturbances, which completely mask or render obscure the signs that without the disturbing causes would be readily recognized. Now, veratrum viride quiets these functional disturbances, lessens the rapidity of the circulation, tranquillizes the respiration, and thus so moderates these functions that the mind can readilly define and arrange the sounds that are communicated to the ear. I give you this new means of diagnosis as the result of my own investigations. I am not aware that it has ever been practiced, except by those to whom I have communicated it. I need not impress upon you its vast importance, for, by means of this practice, you may always know what you are treating, and you will find that that is no slight gain in your ability to inform your patient of what he may expect from your treatment. This new means of diagnosis will be of inestimable value to the Life Insurance Companies in all cases of doubtful diseases of the chest.

But let me, in a few words, finish what I have to say on the treatment of the patient before us, and I must leave further discussion of the interesting subject matter before us to another lecture.

As soon as our patient had entirely overcome all feelings of nausea, half a grain of elaterium was administered to him. It produced a large watery evacuation, and greatly relieved the œdematous condition of the legs. By small doses of veratrum viride, cautiously administered whenever dyspnœa became troublesome, by the admistration of half a grain of elaterium every third day, and by the use of the vegetable tonics, and a nutritious, but carefully watched diet, our patient is out and about his ordinary occupation, but he has to be very careful, or the orthopnœal struggles prevent him from sleeping at night. He will, probably, die suddenly. I have merely related this case as a means of interesting you in the new method of diagnosis I have proposed to you. It was more easy for me to bring it before you in this way.

Of the concentrated tincture of which I have spoken, I have found that which is usually sold in the drug stores under the name of Norwood's Tincture, of very uncertain strength, scarcely ever being alike in two different stores; and I think a great deal of the want of uniformity complained of with this remedy, is owing to the imperfect manner in which the tincture I have spoken of is made. From the many experiments I have performed, I have found that the medicinal principle of the root is contained in the resin. To obviate all difficulties of the uncertainty of strength, I have prepared the tincture I have been in the habit of using, after the following formula, and have always found it uniform in strength:—

CONCENTRATED TINCTURE OF VERATRUM VIRIDE.

Any quantity of well-selected root is coarsely powdered, and treated with alcohol 86°, by percolation, the alcohol is distilled off, and the residuum evaporated to an extract over a water-bath until it is nearly dry, or until it ceases to become lighter upon being weighed at intervals of an hour or two. To make the tincture, one part of this extract is dissolved in ten parts of alcohol at 86°, and filtered.

Any good pharmaceutist can prepare this tincture, but if any of you wish to use it immediately, either the tincture or the extract can be obtained from Mr. Faber, Sixth Avenue, corner of Thirty-eighth Street.

This tincture is nearly double the strength of that called Norwood's, and the medium dose is about two minims. I also use the pure resinoid, and a tincture prepared from it, of which I will speak at another time.

Pus in the Blood; no Metastatic Abscesses.—Professor Langier has communicated to the *Gazette des Hopitaux* the case of a man, aged thirty-seven, who begged for amputation of the thigh on account of excruciating pain connected with white swelling of the knee. The patient died a week after the operation, having had several fits of shivering. M. Langier concluded, from the rapidity of the phenomena, that no metastatic abscesses would be found, but suspected that pus-globules might be discovered in the blood. M. Chatin examined three drachms of blood taken from the right side of the heart, and found pus-globules by the microscope in one of the three drachms. Ammonia gave a gelatinous precipitate in the second portion; and ammonia was evolved by the last drachm when left to decompose. From the first two results, M. Langier concludes that the blood contained pus.—*London Lancet.*

Book Notices.

A Practical Handbook of Medical Chemistry. By John E. Bowman, F.C.S., formerly Professor of Practical Chemistry in King's College, London. Edited by Charles L. Bloxam, Professor of Practical Chemistry in King's College, London. Third American from the Fourth and Revised London Edition, with Illustrations. Philadelphia: Blanchard & Lea. 1863.

The Medical Student's Vade-Mecum. A compendium of Anatomy, Physiology, Chemistry, Poisons, Materia Medica, Pharmacy, Surgery, Obstetrics, Practical Medicine, Diseases of the Skin, &c., &c. By George Mendenhall, M.D., Professor of Obstetrics and Diseases of Women and Children in the Medical College of Ohio, Member of the American Medical Association, &c., &c. Seventh Edition, Revised and Enlarged, with 224 Illustrations. Philadelphia: Lindsay & Blakiston. 1863.

A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, A.B., A.M., M.D.; Lieutenant-Colonel; Medical Inspector of U. S. A.; Professor of Military Surgery and Hygiene, and of Fractures and Dislocations, in Bellevue Hospital Medical College; one of the Surgeons to the Bellevue Hospital, New York; Professor of Military Surgery, &c., in the Long Island College Hospital, Brooklyn; author of a Treatise on Military Surgery. Second Edition, Revised and Improved. Illustrated with 285 Woodcuts. Philadelphia: Blanchard & Lea. 1863.

The Action of Medicines in the System: Being the Prize Essay to which the Medical Society of London awarded the Fothergillian Gold Medal for 1852. By Frederick William Headland, M.D., B.A., F.L.S., Licentiate of the Royal College of Physicians, &c., &c. Fourth American Edition. Philadelphia: Lindsay & Blakiston. 1863.

A Theoretical and Practical Treatise on Midwifery, including the Diseases of Pregnancy and Parturition, and the Attentions required by the Child from Birth to the Period of Weaning. By P. Cazeaux, Member of the Imperial Academy of Medicine, Adjunct Professor in the Faculty of Medicine of Paris, Chevalier of the Legion of Honor, &c., &c., &c., &c. Adopted by the Superior Council of Public Instruction, and placed, by ministerial decision, in the rank of the Classical Works designed for the use of Midwife Students in the Maternity Hospital of Paris. Third American, translated from the Sixth French Edition. By Wm. R. Bullock, M.D.; with 140 Illustrations. Philadelphia: Lindsay & Blakiston. 1863.

All the foregoing works are excellent treatises on the several branches set forth on their title pages, and by authors of de-

servedly high reputation. They are new editions of works which have been long enough before the profession to be well known and duly appreciated; hence, no extended notice of their contents is required. The publishers have also executed their part of the task well: the paper, type, illustrations, and binding being all of excellent quality. They may be found for sale at the Book Store of W. B. Keen & Co., Lake Street, Chicago.

Editorial.

Mercy Hospital.—It is well known to most of our readers, and especially to those who have visited or attended the medical colleges in this city, that the Hospital of the Sisters of Mercy has afforded the chief resources for direct clinical or bed side instruction ever since its commencement in the autumn of 1850. It is equally well known, that up to the present time its prosperity and usefulness have been greatly retarded by the want of a suitable hospital building. Hence, we could make no more gratifying announcement, both to the friends of the sick and of medical education, than the fact, that during the next thirty days the hospital will be transferred to entirely new quarters. An ample plot of ground, beautifully improved, and occupied by a well-constructed building, on the corner of Calumet Avenue and Rio Grande Street, has been secured and fitted up as a permanent location for the hospital. The building is constructed of brick, 40 by 80 feet, and four storys high. It contains six public wards for ordinary medical and surgical patients, both male and female; six smaller rooms, admirably adapted for the accommodation of those patients whose circumstances render them desirous of better and more quiet rooms than can be had in a general ward; and a ward especially for lying-in women. We shall thus have a general hospital, worthy of the name, and adequate to the wants of the city. It will continue, as heretofore, under the excellent management of the Sisters of Mercy. The medical wards will continue under the

charge of Prof. N. S. Davis; the surgical, under the charge of Prof. E. Andrews; and the lying-in department, under the care of Prof. W. H. Byford. Being located only a few blocks distant from the new building for the Medical Department of Lind University, it will continue as fully accessible for clinical instruction as heretofore.

Medical Department of Lind University.—The friends of this Institution will be gratified to learn that its next Annual Course of instruction will be given in an entirely new and permanent College edifice. The latter is now in process of erection, and will be completed before the end of September next. It is located in the South Division of the City, near the corner of State Street and Ringgold Place. It is being built of brick, three storys above the basement, and will contain a Library and Dispensary Room, Laboratory, Museum, Dissecting Room, College Hall or Lower Lecture Room, and Amphitheatre. Being constructed especially for a Medical College building, it will contain all the conveniences and comforts that are desirable in such institutions. The location is directly between the Mercy Hospital and the City Hospital building, and so near that students will have easy access to both: thus enabling the Faculty to retain the most ample clinical advantages, as a part of their regular course of instruction. The present Summer Course of instruction, which is now nearly completed, has been a very pleasant and profitable one; and the institution, in all its relations, is steadily increasing in its prosperity.

Since the above was in type, we have received the following official announcement from the Faculty of the College, which we insert with pleasure:—

TO THE FRIENDS AND PATRONS OF THE CHICAGO MEDICAL COLLEGE,—MEDICAL DEPARTMENT OF LIND UNIVERSITY:

Since the issue of our Annual Announcement at the close of the last Lecture Term, some changes and improvements have been made, which we are sure will be gratifying to all the friends of a more systematic and extended system of medical education.

The Board of Trustees of the Lind University having determined to change the name of that institution, to that of "Lake Forest University," it became necessary to choose some other name for the Medical Department, to prevent frequent mistakes in reference to its locality. It had also become necessary for the Faculty of the Medical Department to become organized as a corporate body, to enable it to receive and hold property independent of the Board of Trustees. For these reasons, it has been deemed advisable to adopt, as a separate and permanent name, the *Chicago Medical College;* and hence, by this title the Institution will be known and designated hereafter.

An improvement of much greater importance to the friends of the school, consists in the acquisition of new and commodious college building and grounds, located in a pleasant and very accessible part of the city. The building is now advancing rapidly towards completion, and will be fully ready for occupancy at the commencement of the next regular Annual Lecture Term. In planing the building, no unnecessary expenditures were incurred for mere external architectural show; but such internal arrangements were made as to secure every needed accommodation and convenience. Its location is such as to secure a continuance also of the most ample means for hospital clinical instruction, being only a few blocks distant from the new Mercy Hospital, on the one side; and still nearer to the City Hospital building, on the other.

In thus announcing the important improvements being made in our college accommodations, it is deemed advisable to add a brief statement of the principles on which the Institution is founded, and the objects its Faculty aim to accomplish, as follows :—

First, That the Medical College should embrace such a number of Professorships, and such length of Lecture term, as will enable the Faculty to give a fair review of all the important branches of medical science during each term.

Second, That the several branches should be so grouped as to enable the student in his several courses to pass from the

more fundamental to the more practical branches, as in all other departments of education.

Third, That the instruction in all the departments or branches should be demonstrative, as far as possible, and not merely theoretical.

In accordance with these principles, the founders of the Chicago Medical College adopted a curriculum of instruction embracing thirteen professorships, namely, Descriptive Anatomy; Physiology and Histology; Inorganic Chemistry; Materia Medica and Therapeutics; General Pathology and Public Hygiene; Surgical Anatomy and Operations of Surgery; Organic Chemistry and Toxicology; Medical Jurisprudence; Obstetrics and Diseases of Women and Children; Principles and Practice of Surgery and Military Surgery; Principles and Practice of Medicine; Clinical Surgery; and Clinical Medicine.

They divided these into two groups, called the junior and senior departments or courses. The five first named branches constitute the junior course; and the remaining branches the senior course.

The full Collegiate year embraces nine months, namely, from the first of October to the first of July. Five months of this period, namely, October, November, December, January, and February, constitute the regular Annual Lecture Term; and the remaining four months constitutes a summer reading and Clinical Term. The regular Lecture Season, or Winter Term, embraces full courses of instruction on all the branches named in the curriculum of both junior and senior departments. And the hours of lecturing are so arranged that any student can attend, if he chooses, the lectures on all the branches in both departments throughout the term.

But all first course students are *required* to attend, faithfully, the branches embraced in the junior course; and are required to undergo a careful examination in those branches at the close of the term. Second course students are required to attend all the branches in the senior course; while those who attend a third course, can select such branches from both departments as they may choose.

The clinical course embraces a regular medical or surgical clinic in the hospital and dispensary, one hour each day, throughout the Collegiate year.

The Summer Term of four months embraces one familiar lecture and one clinic each day.

The system of medical college instruction, thus arranged, has a comprehensiveness equal to the present extended range of medical sciences; a systematic order of progress, favorable alike to thorough acquisition of knowledge and desirable mental discipline; while the daily hospital clinics render the courses on the practical branches as demonstrative as those on the more elementary.

Both for the purpose of interesting the profession of the State more directly in the cause of medical education, and for avoiding all cavil in reference to the character of the final examination of candidates for graduation, the Faculty have requested the Illinois State Medical Society to appoint annually a Board of three Censors to attend on, and participate in, the examinations at the close of each Annual Course of instruction.

The system thus devised has now been in practical operation four years; and its success has been more than equal to the expectations of the Faculty.

Hence we again invite the attention of the profession to it, in connection with the new College Building, with a full conviction that it will meet with universal favor. The following constitute the present active members of the Faculty:—

J. S. Jewell, M.D., Professor of Descriptive Anatomy.

H. A. Johnson, M.D., Professor of Physiology and Histology.

J. H. Hollister, M.D., Professor of Materia Medica and Therapeutics.

Henry Wing, M.D., Professor of General Pathology and Public Hygiene.

F. Mahla, Ph. D., Professor of Inorganic Chemistry.

Edmund Andrews, M.D., Professor of Principles and Practice of Surgery, and of Military Surgery.

Ralph N. Isham, M.D., Professor of Surgical Anatomy and Operations of Surgery.

W. H. Byford, M.D., Professor of Obstetrics and Diseases of Women and Children.

N. S. Davis, M.D., Professor of Principles and Practice of Medicine, and of Clinical Medicine.

F. Mahla, Ph. D., Professor of Organic Chemistry and Toxicology.

H. G. Spafford, Professor of Medical Jurisprudence.

J. S. Jewell, M.D., Demonstrator of Anatomy.

The regular Lecture Term commences on the second Monday in October, and continues until the first Tuesday in March, following.

The Summer Term commences on the second Tuesday in March, and continues until the first Monday in July.

The fees are as follows:—

For the Winter Term, admitting to all the Lectures in the College,	$50.00
Graduation Fee,	20.00
Matriculation Fee,	5.00
Dissecting Ticket,	5.00
Hospital Ticket,	6.00

All fees are payable in advance.

Summer Course free to matriculated students of the College.

For further information inquire of

E. ANDREWS, *Secretary.*

Chicago, July 27, 1863.

Report on the Sanitary Condition of the West Division of the City. By H. Wanzer, M.D., Chicago. Read to the Chicago Medical Society, June 13th, 1863.— Dr. Wanzer represents the health of the West Division of the city as having been good during the month of May and early part of June. Yet, he says, cases of fever, chiefly of the malarious origin, have been met with, which he describes in general terms as follows:—

"For several days previous to the call of the physician, the patients usually complained of lassitude, drowsiness, headache, backache, bitter taste in the mouth, sometimes vomiting of

bilious matter. These symptoms were, generally, followed by a chill." In their treatment, mercurial alteratives have been indispensable at the commencement of the attacks, followed by anti-periodics. Recoveries were, generally, rapid and complete. In relation to typhoid fever, the reporter says, "There have been but few cases of typhoid fever, though, in consequence of the malarial atmosphere we have had through the winter, and the filthy condition of the streets, alleys, &c., throughout large portions of the city, we may expect many cases later in the season."

He represents an unusual prevalence of exanthematous fevers, more especially of scarlatina, many cases of which were of the anginose variety. The milder cases uniformly recovered with but little medication. A few cases were represented to have assumed a malignant form, two of which were described nearly as follows:—

The first was a girl of six years of age. The attack was sudden and accompanied by so much swelling of the tonsils and glands of the neck as to render deglutition very difficult. At the commencement, the febrile excitement was very high, though the characteristic eruption on the skin was slight. The mouth was dry; and dark sordes gathered on the lips and gums; and, in a short time, an aplastic exudation covered the tonsils, pharynx, and some parts of the mouth, as in diphtheria. The strength rapidly failed, with a small and frequent pulse. The patient, however, recovered. The second case was a boy 3 years old. The eruption was not full, and the symptoms were of a typhoid character from the beginning; the pulse was very frequent and weak; the edges of the lips and gums became covered with dark sordes early; white exudations appeared in the mouth and fauces; the parotid regions were swollen; and, in the advanced stage of the disease, a large abscess formed in one of these regions. In their treatment, a mild aperient was first given, and followed by sulphate of quinine and muriated tincture of iron, with chlorate of potassa in solution as a gargle. Beef-tea and milk were relied upon for nourishment.

The reporter had observed only a few cases of erysipelas,

two of which proved fatal. One of the latter was a child only 12 days old. The erysipelatous inflammation commenced in the right breast, and spread so rapidly that the child soon became exhausted to a fatal degree. The other fatal case was a child 5 years of age. The child had received a severe fracture of the frontal bone, with laceration of the dura mater. The depressed portions of bone had been removed by an operation; and, in twelve hours afterwards, the wound was attacked with erysipelatous inflammation, which spread rapidly over the face, scalp, and meninges of the brain, and produced death in about seventy hours after the injury. He further stated, that during the preceding few weeks, a majority of his surgical patients had shown a tendency to traumatic erysipelas. Other physicians, with whom he had conversed, had noticed the existence of the same predisposition or diathesis.

He had also seen some cases of puerpural fever during the preceding month. Hooping-cough had also been sufficiently prevalent to merit the name of a mild epidemic.

CALOMEL AND TARTAR EMETIC AS REMEDIAL AGENTS.

SURGEON-GENERAL'S OFFICE,
WASHINGTON CITY, *June 12th*, 1863.

Dear Sir:—Desiring to obtain the opinions of the more eminent members of the Medical Profession relative to the indiscriminate use of Calomel and Tartarized Antimony, I have the honor to request that you will answer the following questions:

1st. To what extent do you prescribe Calomel and Tartar Emetic in your practice?

2d. Do you regard these agents as indispensable in the treatment of disease?

3d. In view of the facts that a large number of the Medical Officers of the Army are young and inexperienced, and that soldiers cannot in the field be placed beyond the influence of atmospheric vicissitudes and exposure whilst undergoing medical treatment, would you recommend that the medicines in question be issued to Army Medical Officers, except, as at present, upon special requisition?

4th. Do you or do you not think that more harm than good

has resulted from the use of Calomel and Tartar Emetic as medicines?

It should be stated that the following mercurials are at present on the Supply-Table, viz.:—

Hydrargyri chloridum corrosivum; Hydrargyri iodidum flavum; Hydrargyri oxidum rubrum; Hydrargyri pilulæ; Hydrargyri unguentum; Hydrargyri nitratis unguentum; Pilulæ catharticæ compositæ; and that it is provided by paragraph 13, of Circular No. 7, dated Surgeon-General's Office, May 7, 1863, which contains the Supply-Table, and which refers to the manner of obtaining medical supplies, that "it is not the design of the Department to confine the Medical Officers absolutely to that table, either in variety or quality, but only to establish a standard for their guidance in making requisitions for supplies, leaving individual preferences to be indulged at the discretion of the Medical Director or the Surgeon-General. Neither is it supposed that the quantities of the table will always meet the necessities of unusual emergencies, as, during epidemics, or in unhealthy seasons and localities; and Medical Officers who allow their supplies to be exhausted through any such contingencies, without timely notice of their approaching necessities, will be held to a strict accountability."

I am, sir, very respectfully,
Your obedient servant,
WILLIAM A. HAMMOND,
Surgeon-General U.S.A.

We copy the above Circular of the Surgeon-General of the United States Army, from the *American Medical Times*, of July 4th, 1863. From the language of the Circular and from the accompanying comments of the editor, it would appear that it is addressed to "the more eminent members of the medical profession," without reference to their connection with the Medical Staff of the Army. But two weeks later, we are assured, by the editor of the same journal, that the questions in the Circular were designed exclusively for the consideration of the Medical Officers of the Army, and not for medical men in civil practice however *eminent* they might be.

This Circular is certainly a very singular one. To appreciate its peculiar bearings, it must be remembered that in May preceding the same medical officer issued his noted Order, No. 6, prohibiting the further supply of Calomel and Tartar Emetic

to the Medical Staff of the Army. That order professed to be founded on the fact, that Calomel had been so abused by Medical Officers of the Army, as to have produced "not only *innumerable cases of profuse salivation*, but the *not infrequent occurrence of mercurial gangrene;*" coupled with the further allegation, "that *modern pathology has proved the impropriety of the use of mercury* in very many of those diseases in which it was formerly unfailingly administered." For these reasons, the order contained the following positive and unqualified directions, viz.:—"It is directed that it (Calomel,) be struck from the supply-table, and that *no further requisitions* for this medicine be approved by Medical Directors." It is well known that the first of the reasons assigned in the order, containing as it does a sweeping charge of mal-practice against the Medical Officers of the Army, induced severe criticism, and, in some very respectable quarters, positive denials of the truth of the charge, thus making a direct issue with the Surgeon-General in relation to the facts alleged. Under such circumstances, we certainly had reason to expect that the Surgeon-General would promptly sustain the truth of the allegations in his order, by publishing the actual *statistics of* "Salivation" and "Mercurial Gangrene," specifying the hospitals and regiments in which they occurred; and thereby not only silence further cavil in regard to the facts, but enable the profession to distinguish between the innocent and the guilty Medical Officers. But, instead of this, after a delay of two months, we have the puerile and very ridiculous Circular of Inquiry, quoted at the head of this article. We say, very *ridiculous*, for how else can we characterize the following?—

"Desiring to obtain the opinions of the more eminent members of the medical profession relative to the *indiscriminate* use of Calomel." &c. Is there any man of ordinary intelligence in the profession who could have any other than an *unfavorable* opinion of the "indiscriminate use" of Calomel, or any other medicine whatever? Why ask for "opinions" relative to a proposition stated in such form as to admit of but *one* opinion? But does the Surgeon-General, in thus artfully using the word

"indiscriminate," really persist in the desire to have the world believe the Medical Staff of the Army, over which he presides, to be composed of men incapable of any *discrimination?* Again, look at question number two:—"Do you regard these agents (Calomel and Tartar Emetic,) as *indispensable* in the treatment of disease?" Of course not. For that physician who could not select, from the other preparations of *mercury* and the large classes of alteratives and sedative nauseants in the *Materia Medica*, such articles as would enable him to treat disease successfully without the particular agents named, must certainly be possessed of very limited mental resources. But because a particular remedy may not be absolutely *indispensable*, does that constitute a good reason why its use should be prohibited? Mankind have lived and transacted all their necessary business with the aid of tallow-candles merely, therefore, *gas-lights* cannot be claimed as "indispensable."

The implied logic of the Surgeon-General would require the prohibition of gas, lest some blunderhead should chance to blow up a metre, now and then; and so we are to understand that the "*innumerable* cases of profuse salivation and the not infrequent occurrence of *mercurial gangrene*," have dwindled down to the simple pettifogging questions of this Circular; and the "Modern Pathology" which had "proved the *impropriety* of the use of *mercury*," &c., meant only *Calomel*, while the use of "Hydrargyri chloridum corrosivum; Hydrargyri iodidum flavum; Hydrargyri pilulæ; Hydrargyri unguentum," &c., are exempt from any such *impropriety*. Now, if the Surgeon-General will condescend to tell us what special mischief a "young and inexperienced" Medical Officer of the Army can do with Calomel that he cannot do equally well with blue mass, corrosive sublimate, iodide of mercury, and mercurial ointment, we will engage to tell him the exact difference between tweedle-dum and tweedle-dee.

Statistics of the Chicago Eye and Ear Infirmary.—*By E. L. Holmes, M.D., Attending-Surgeon.*—That during the year, ending May 1, 1862, *three hundred and ninety-seven* patients, and during the year, ending May 1, 1863, *two hun-*

dred and forty-seven patients were under treatment, making an aggregate of *one thousand two hundred and twenty-four* that have been treated since the opening of the Infirmary in 1858.

The following is a classified list of the forms of disease which have been under treatment during the past two years:—

DISEASES OF THE EYE.

Wounds and injuries,	34	Amaurosis,	15
Conjunctivitis, simple,	43	Cystic Tumors of Lids,	6
" granular,	144	Obstruction of Nasal Duct,	13
" neonatorum,	24	Trichiasis,	18
" scrofulous,	46	Inflammation of Lids,	17
" purulent,	16	Strabismus,	3
Ulcer of Cornea,	17	Cataract,	12
Opacity of Cornea,	18	Entropion,	12
Staphlyoma of Cornea,	14	Extropion,	9
Foreign Bodies on Cornea,	7	Asthenopœa,	13
Abscess of Upper Lid,	6	Pterygium,	6
Iritis,	15	Hydrophthalmos,	3
Occlusion of Pupil,	9	Obliteration of lachrymal canals,	2
Total,			522

DISEASES OF THE EAR.

Foreign Bodies in Ext. Meatus,	8	Impacted Cerumen,	8
Otorrhœa,	26	Thickening Membrana Tympani,	9
Polypus,	4	Inflammation of Membrana Tympani,	18
Tinnitus,	3	Unclassified,	37
Perforation Membrana Tympani,	9		
Total,			122

Of the aggregate number treated, viz., 644, *four hundred and fifty-one* were natives of foreign countries, and *one hundred and ninety-three* of the United States.

The Pitcher Plant in Small Pox.—*To the Editor of the American Medical Times, N. Y.*—Monday, May 18, 1863, was called to W. C., a young man 23 years of age, strong and vigorous constitution. Found him with all the premonitory symptoms of variola, the lumbar pains being particularly prominent. He had been exposed to that disease eight or ten days before. Does not remember ever having been vaccinated.

Tuesday, 19th.—Fever higher, and pain more severe; eruption beginning to appear. I gave him the usual treatment; but without entering into details, suffice to say that on Saturday 23d, there was a copious eruption of pustules about the size of small split peas, diffused over the whole body, particularly on the hands and face. The latter was so swollen as almost to close the eyes; the eruption being so thick even at this stage,

as to look like one great pustule. There had been more or less delirium during the night, and the severe lumbar pains were undiminished. It now occurred to me to give the sarraecnia purpurea a trial, as it was growing in abundanee in a marsh near the house. I sent out and proeured some of the roots, and direeted the nurse to give a teaeup two-thirds full of the deeoetion every four hours.

Sunday evening, 24th, saw him again, had been delirious the night before, but was now calm, pulse slow, skin eool, and many of the pustules shrivelling. From this time the disease never advaneed, but all the pustules dried up without maturing or leaving any pitting. The root in this ease had eut short the disease. Let other physieians then give a trial and report on its results. Yours, &e.,

SAMUEL MITCHELL, M.D.

Cameron Mills, June 23d, 1863.—*American Med. Times.*

We eall attention partieularly to the above ease, on aeeount of the piteher plants growing wild throughout Canada, and the faeility therefore with whieh every physieian ean try it for himself. The effeet of this remedy is one of the great eontroversies of the day in Great Britain, where it has been sent from Nova Seotia, and administered in the small pox hospitals to some of the most severe cases, and its powers denied. We shall be happy, therefore, to hear from any physieian who gives it a trial; and also to learn the loealities in whieh it is found most abundantly.—*Canada Lancet.*

CHRONIC ECZEMA.—M. Peters gives the following as a very suecessful mode of treating this disease, viz.:—

Saline Aperient.—℞. Sodii Chlor. ℥iij, Magnes. Chlor. ℥ij, Sodæ Sulph. ℥v, Magnes. Sulph. ℥i, Aquæ Oij. m. Dose, two tumblersful the first morning, and one tumblerful eaeh on the seeond and third morning afterwards.

The Lotion.—℞. Hydrag Chlor. Cor. gr. ij, Aq. Lauro Cerasi ℥i, Spts. Rect. ℥ii, Aquæ ℥vij. m. The parts to be washed with this solution three times a-day.—*Revue de Therapeutique.*

The quantity of ehloride of magnesium ordered, may be readily made by adding half a-draehm of the earbonate of magnesia to two draehms of muriatie aeid, previously diluted with an ounee of water. And the ounee of eherry laurel water in the lotion, by adding 15m Seheele's hydroeyanie aeid to an ounee of water.—*Canada Lancet.*

On Gonorrhœal Ophthalmia. By Dr. M. H. Collins, Surgeon to the Meath Hospital and County Dublin Infirmary. —This affection,—so formidable to the surgeon to deal with, and so fatal to the usefulness of the eye,—yields with marvellous rapidity to repeated weak injections. The inflamed and œdematous conjunctiva being punctured, or snipped with the scissors if necessary, a careful student can be put beside the patient's bed, and shown how to send the contents of the syringe underneath the upper lid, from the external canthus across the eyeball. In the most acute cases, a solution of a-quarter of a grain of nitrate of silver to the ounce of distilled water should be used every ten minutes, for the first hour; after that, a half-grain solution should be injected every half-hour. If this is carefully carried out for the first twenty-four hours, the patient's eye will be quite safe. A stronger solution may then be used; and, if needful, it may be followed, in a couple of days, by Guthrie's ointment of nitrate of silver, if the villous condition of the conjunctiva should seem to require it. I have followed this plan of treatment generally, for at least nine years; and in that time I have never lost an eye from gonorrhœal ophthalmia, with one exception; in that case, the pupil in charge broke the syringe, and thinking it a matter of no importance, he waited for twenty-four hours to get it replaced; by this time the cornea had sloughed in one point, and the iris protruded. The man, however, was so fortunate as to recover, with comparatively slight injury to sight. Such surgeons and pupils as followed any of these cases have been struck with astonishment at the facility with which this formidable affection is cured. I cannot at this moment remember to whom the credit of weak injections of nitrate of silver is due; my attention was drawn to it by seeing the failure of the heroic treatment, which sacrifices nearly 50 per cent of eyes in whole or in part. I found, however, that the weak solutions were insufficient for the cure of the disease unless frequently applied.—*Dublin Quarterly Journ.*

Syphilis.—The following paragraph occurs in a lecture by Dr. Wilks, of Guy's Hospital, on the syphilitic affections of internal organs. It enunciates an important principle in the treatment of syphilis, which we think will at once commend itself as true to the minds of most men who have had much practical experience of the disease:—

In thinking of this subject, from a therapeutical point of view, I have long been under the impression that the value of absorbent remedies, as mercury and iodide of potassium, is in

proportion to the formation of such low organizable material, and that these remedies are not curative in relation to the syphilitic poison itself; thus the failure of the iodide in secondary syphilis attended only by simple rashes on the skin, but its efficacy where pains in the bones exist, and other symptoms indicative of an inflammation of the fibrous tissues, with a tendency to the production of lymph.—*Edinburgh Medical Journal.*

Insane Poor.—On the 1st of January, 1862, there were in England and Wales, not including a few parishes making no returns concerning their poor, 946,166 paupers chargeable to the Poor-rates, and of this number 34,271 were insane—namely 22,960 lunatics and 11,311 idiots; in other words, 3·62 per cent of the pauperism was ascribable to insanity, the lunatics being 2·43 per cent, and the idiots 1·19 per cent. 14,936 were males, 19,335 females. 18,318 were in county or borough lunatic asylums, 1193 in registered hospitals or licensed houses, 8603 in union or parish workhouses, 985 in lodgings or boarded out, and 5172 resided with relatives.

Colocynth.—A gentlemen in Aylmer, Canada East, informs us, that being in a drug store and noticing the seeds in a colocynth apple, he procured a few and planted them, late in the spring, in a poor piece of ground with his potatoes. They throve well and bore fruit, a few of which ripened before being destroyed by frost. He describes the plant as resembling very much that of a water melon, and the fruit to be like oranges in size and appearance. Acting on this success, we sowed a few seeds in the open ground on the first of May last, the plants are now several inches in height, but have not yet commenced to run.—*Canada Lancet.*

Breast-pin Swallowed by a Child.—In the *Edinburgh Medical Journal*, Thomas Annandale, Esq., F.R.C.S.E., relates the case of a child, aged three years, who swallowed a breast-pin about three inches in length, which was voided in twenty hours afterwards, the child having suffered no inconvenience.—*London Lancet.*

Former and Present Mortality of London.—From 1765 to 1775 the mortality of London was estimated at about one in twenty, or 5 per cent; in 1862 it was one in about forty, or less than $2\frac{1}{2}$ per cent.—*London Lancet.*

Oxygen Gas.—At the last sitting of the Academy of Sciences of Munich, Baron Liebig made a very interesting communication relative to some experiments made with a new apparatus,—manufactured chiefly at the expense of the King of Bavaria,—for detecting the existence and measuring the quantity of oxygen in various bodies. The experiments, Baron Liebig stated, had proved clearly that oxygen is not only evolved from the atmosphere by plants, but also in tolerably large quantities by decomposition of water in the body of flesh-eating animals. Baron Liebig thinks that the knowledge of this fact will throw quite a new light on the hitherto but imperfectly understood processes of nutrition and digestion.—*London Lancet.*

Extraction of a Ball.—On Tuesday last, the seventeenth anniversary of the Battle of the Sobraom, a veteran applied at the North Staffordshire Infirmary to have an iron musket ball, or grape-shot, extracted from below the shoulder-blade, where he received it in that memorable battle with the Sikhs. The operation was successfully performed under chloroform by Mr. William Henry Folker.

Poisonous Ballet Dresses.—It is stated, that the first representation of a new piece has just been given at Hamburg, in which the female dancers appeared in green costumes to represent water-nymphs. The stuff of which these costumes were made contained such a quantity of arsenic that the needlewomen who made the dresses fell ill, and the dancers were attacked with violent symptoms of poisoning whilst on the stage.

Elaterium.—Dr. Thomas, near Philadelphia, informs us that he has been very successful in growing Elaterium plants in the open ground, by seeds sown in a sunny situation in May. He collected well-matured fruit from the plants for exhibition in the latter part of August. A few seeds dropping on the ground, outlived the winter, and grew thriftily the following spring.—*Canada Lancet.*

Muscular Electricity.—Ranke, the German physiologist, has published, amongst the results of his investigations into the phenomena of electric currents in the muscles, the fact that dead muscle is a much better conductor of electricity than the living muscle, because, as he judges, of the presence of certain products of decomposition which do not appear till after death.

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ARTICLE XIX.

MINOR MENTAL MALADIES.

BY ANDREW McFARLAND, M.D.

Read before the Illinois State Medical Society, May 6, and the American Association of Superintendents of American Institutions for the Insane, May 19, 1863.

It is a constantly recurring question, how far the terms *healthy* and *sane* should be regarded as the expressions of a strictly positive idea.

The solecism that a person is partially sick, is seldom heard; but the term, partially insane, is so common as to pass without a question. The boundary between physical health and disease is supposed to be well defined. The determinate point at which a person shall be called physically *sick* has a certain precision about it, it being a point which the person affected can define for himself. All there is abitrary about it, arises from peculiarities of mental constitution, which may lead one individual to fix the period at an earlier date than that chosen by another. In all mental affections, however, the opinions of those who pass judgment upon themselves are regarded more in the light of *ex parte* proceedings, requiring confirmation by the judgment of others.

The "thin partitions," recognized in Dryden's couplet, fade away almost entirely in regard to a great number of cases of

mental impairment, creating a border territory, on the domain of which reason or madness may be supposed to hold sway, much according to the caprice in opinion of whoever may, for the time being, pass judgment thereupon.

Perpetual embarrassments and social disturbances are taking place from the sayings and doings of individuals, who, while occupying the wrong side of the border line, claim the prerogatives exclusively appertaining to the occupants of the other, neither themselves nor those affected by their acts perceiving the wrong stand-point from which such acts have their issue. Probably, physicians, more frequently than any other class, are subject to such embarrassments, and it will be the present object to pass in review some of those abnormal mental states which are apt to impose upon the practitioner, and sometimes, I apprehend, seriously warp his judgment.

It is presumed that, in the all-important matter of health, the statement of the patient to his physician will be as strictly truthful as language can make it. The physician always having this in mind, becomes, at the bedside of his patient, the most credulous of men, usually accepting, without question, all statements of facts on matters not otherwise capable of demonstration. It is only where the statement is most strikingly at variance with probability that his suspicions are ever aroused, and then even so tardily and feebly that he may be the victim of most egregious impositions for a long period. In his department, as in all others, the most successful imposter is the one who is himself deceived, and the earnestness, profound sincerity, and ceaseless importunity with which some self-deception may be forced on the unsuspecting physician, will command for a palpable error all the attention due to matters of highest earthly consequence.

Sources of error more trifling than any which proceed from a patient's imagination, may warp the judgment of the unthinking physician. Even the temperament of the messenger, whose only office is to convey the summons of the sick man to the doctor, may be potent enough to sway the latter into a prejudgment of the case in matters of diagnosis and treatment. How

many physicians are there who could be aroused from deep slumber and hurried to the bed of a sick man by some such Mercurius of a messenger, as we have seen, without being prepared with a prognosis, diagnosis, and treatment, hard to be abandoned, which had been colored, at least, by the glowing imagination of such an insignificant functionary?

The mere idea of being diseased, as it impresses the mind of one to whom health is the natural state, is productive of an abnormal mental condition. The stays and supports which the mind receives in the conception of a variety of ideas, are missed when one engrossing idea occupies the attention. The estimate which the physician has gathered of his patient while in a state of health, fails him when the individual assumes the relation of a patient. Timidity, want of confidence, and even incivility are found to have taken the place of the manliness in which the same individual was before supposed to abound.

There are circumstances attending the mere occupancy of a sick bed, calculated, irrespective of the form of the disease, to place one in a factitious state of mind, which the physician will do well to consider. Even the disrobing and going to bed puts a person in an unnatural relation to the erect and active world about him. A man can not even exchange his roundabout and boots for a dressing-gown and slippers without being made, in feeling, at least, somewhat effeminate by the act, and what an abatement in his manliness is there when he is reduced,—a single garment only excepted,—to the original suit in which he made his mundane début. It was regarded as one of the clearest proofs of the regal dignity of Louis XIV. that he could dress and undress, take his physic and endure its consequences, while surrounded by his courtiers, his dignity the while suffering no disturbance. Few persons unpracticed in state craft would dare venture the experiment. Cæsar, booted and spurred, leading his victorious legions through Gaul, was a totally different man from the Cæsar who earned the contempt of Brutus by his puling conduct when he had the fever in Spain.

The recumbent position is one no more favorable to seeing objects correctly with the mental than the bodily vision. Who

that has had occasion to put to paper the ideas that thrust themselves upon the mind during the waking hours of night, has not been disappointed at the show they make when subjected to such a test? This morbid coloring of ideas, thus engendered, may be in part owing to the influence of the silence and darkness of night, though it is enough perceived in the day time to show that it is largely due to mere recumbency of position. Even to the most vigorously constituted, the bed is the habitation of fears and apprehensions, which vanish when the subject of them faces the world in the attitude of encounter.

The terms applied by different individuals to the same degree of personal suffering vary to the widest extremes; and the physician should be carefully on his guard against those whose minds conceive such a state only in the superlative degree. With some, a pain is always "terrible;" "beyond all endurance;" or, it is "torturing," "racking," "excruciating," as if the inventions of martyrdom could only supply fitting terms for its expression, while another, in defining the same amount of suffering, uses only the proper positive. The difficulty in correct diagnosis, is increased where the individual makes his act, while under observation, correspond with his language. He turns himself in bed with a groan, starts at the examining touch, catches his breath at each inspiration, distorts his countenance, or walks with his hand pressed carefully to his side.

Perhaps a more frequent form of this deception is in regard to the exercise of some physical function. Some habitually attempt to deceive in regard to the excretions, their frequency and amount, using, sometimes, the most loathsome devices to conceal the real fact. More frequently it is in regard to the amount of nutriment taken. Misrepresentations in regard to the latter fact, are frequent, beyond the idea even of the most suspicious. Multitudes of weak-minded persons seem to regard abstinence from food as something meritorious, and deceive, with regard to it, for the sake of winning the sympathy of others. The same morbid disposition will often lead patients

to falsify with regard to the operation of medicines. This is true, particularly of cathartics, and the prescriber is frequently led to increase the dose, even to an injurious amount.

Great skill is required to separate the fictitious from those real suspensions of physical functions with which mental disease is so frequently connected. The suspension of physical pain, for instance, which occurs in many cases of mental disease, is so great as to mask and conceal bodily injuries of an extreme character. The nerves of sensation seem actually paralyzed. For many years the apparent fact seemed remarkable that very few insane persons died of phthisis pulmonalis. The disuse of autopsies in insane hospitals allowed that error long currency, till it was shown such by the investigations of a gentleman* connected with an institution where that practice was maintained. From his investigations it is shown that pulmonary disease exists quite as much among the insane as among others,—the cough, pains in the chest, &c., being absent merely through a blunted condition of the nerves of sensation. For the same reason, fractures and other serious injuries received by insane persons, often escape detection till some time after they are received into institutions for the treatment of mental disease.

The history of cases of insanity presented for treatment often reminds us how frequently the disease has commenced with some delusion upon the subject of health; and the time spent in the treatment of a disease wholly imaginary, and the number of practitioners who will be successfully deceived by the same case, is matter of continual surprise. The forms which such imaginary diseases assume are truly Protean, and practitioners are much to blame for their readiness to give a name for the thousand shifting and transient sensations to which all persons of ill-regulated sensibilities are more or less subject.

The unthinking practitioner who gives a name to an array of sensations which may be detailed to him, merely for the sake of being rid of a troublesome consulter, and without hav-

* Dr. Joseph Workman, Toronto, Canada.

ing some grounds for such a diagnosis though a satisfying examination, often does an injury which no time can remedy. As an opinion in favor of a delusion will have more weight than many against it, he who, by a professional opinion, gives a local habitation and a name to what was before an airy nothing of the imagination, does a fellow-being a lasting, and may be, fatal injury.

An individual whose vagaries of sensation have thus become magnified into a disease, becomes one of the most miserable of all the mild class of lunatics, as much from the new name which his fancied disease is perpetually getting, or the new disease which each successive prescriber adds to the already appalling host, as from his actual sufferings. His disease is dyspepsia, heart disease, liver complaint, or marasmus, as the case may be, and thus the poor victim finds himself running down a page of nosological horrors, the tendency of which is by no means to lessen the speed by which he is hastening to the inevitable conclusion. For years he will be passing from one physician to another, till his faith in the faculty is exhausted; then through the various forms and grades of empiricism, till every function of his body is completely vitiated by such an unnatural experience. On reaching the lunatic asylum, which is the usual goal of such a course, we find, in the verdict of the jury which commits him, the same stereotyped cause standing forth, like the skull and crossbones of old time tombstones, to wit: "ill health."

Young and middle-aged men are, probably, most frequently the subjects of this mental disease, and no examination is complete which does not include a careful scrutiny as to the existence of vicious habits of a solitary nature, when such cases present themselves. And here let me caution as to the general unreliability of all statements which such subjects may make as it regards this conclusive fact. No exterior of respectability, no professions of better things, no previous character for veracity and candor seem proof against the spirit of mendacity which this detestable practice appears to create. It is only when the individual becomes thoroughly alarmed that the truth comes out of him.

Somewhat nearly allied to the last, though less frequently resulting in positive insanity, is that perpetually existing and utterly incurable malady, chiefly occurring among females, and affording to such practitioners as give it their encouragement, no small amount of their employment. It is a sort of medicomania, an unquenchable desire to make of themselves a constant thoroughfare for drugs. Some real illness may have at first called the habit into existence, though it requires to bring the case to perfection, a constitutional predisposition to it. It is so frequently found prevalent in particular families as to support the idea that, like graver mental maladies, it is a matter of inheritance. With such persons the medical idea seems to fill the mind. The chronicles of neighboring sickness, past and present, and the sayings and doings of some favorite practitioner, are the principal topics of their conversation, with as full a narration of their own diseases added as the time and stomach of any listener can be found to bear. To get up about themselves the atmosphere of the sick-room seems to be their highest delight, and the pleasurable eras in their lives are when they have set on foot the liveliest anxieties, and produced the widest outflow of physic and sympathy. Their imbibition of medicine really never ceases, and, as the articles which they most affect are of the class of diffusible stimulants, they at last become as necessary as the dram of the inebriate. Their diseases are as far from any nosological distinction as those of the last named class. They are really in a great degree imaginary, and differ little from other mental infirmities.

In the class alluded to before the last, should also have been included cases that for a long time deceive, which show themselves by a disposition to go to bed, with little actual complaint of illness, and become fixed in the habit sometimes for long periods. Perhaps, it is more frequently an adhesion to the bed after some actual disease has run its course. This form may appear in males or females alike; perhaps, more frequently in the latter, and, when found in the former, generally, I apprehend, connected with indulgence in secret vice. So averse is the individual sometimes to being seen, that physicians, and

even near neighbors, are unaware, perhaps for years, as I have known, that the missing person is not away from home. That this is a distinct form of insanity is proven by its occurrence in families, other members of which have shown insanity in other forms, and also by its frequently being found as the introduction to more manifest insanity.

The extent to which such persons will sometimes impose their imaginings upon others as realities, is one of the curiosities of human experience. The patient martyrdom of the sympathizing mother, regarding it as her pious duty to forego every earthly pleasure in order to confine herself to the bedside of a daughter thus afflicted, whose condition constantly becomes more deplorable by witnessing this very self-devotion on the part of the parent, is a truly affecting instance of a double delusion, in which it is difficult to say which case is the more pitiable.

We leave out of consideration the whole class of *quasi* mental disorders that show themselves in connection with hysteria, though they might form an interesting chapter in this paper, and pass to notice another peculiar malady of the mind that occurs as a sequel to the puerperal state.

Well-marked puerperal insanity is a disease peculiarly rife in this section of the country, to judge from an experience enabling a comparison with widely different localities. By far the most frequent of all the forms of this disease, is the chronic and hardly recognized one, which is found treated by no author, the distinguishing feature of which is a change in the disposition of the person affected, especially in whatever concerns the social relations, the domestic affections, and the moral tendencies. In the lighter form of this disease, those who observe it are perplexed at the phenomena which it presents. A lady, affected by this form of disease, is found to have suffered a remarkable change, dating from some previous confinement. Traits of character appear, hitherto unknown by those most in her intimacy. She becomes irritable, subject to causeless fits of passion, and jealous of, and estranged from those in whom she had before invested fullest confidence. Sometimes she is

merely changed in temperament, and is moody, solitary, and reserved. These symptoms have their aggravation whenever the functions of the uterine system are in action, till a regular monthly fit of spleen, or something worse, becomes habitual. With neighbors and casual visitors, no change is visible, the power of self-control remaining till long after the disease is fully established, and often no interruption of domestic tranquillity is suspected till a sudden disruption takes place.

More rarely, this form of disease is exhibited in a change of disposition as it regards moral acts. Manifestations of dishonesty, disregard of truth, or moral impurity, stand in strange contrast with all the individual's antecedents. It is among the thousand forms of this peculiar disease that those cases appear which afford the most plausible instances of what has unfortunately been styled *moral insanity.*

And here, somewhat out of its natural order in this paper, a few observations may be proper upon the much vexed question, whether there be such a diseased condition of the human economy as fitly to be styled a moral insanity. It is not merely a speculative question, as those well understand who are much conversant with courts of justice.

In treating the associated insane, one is at once struck with the vast proportion of their aberrations which bear the aspect of mere moral perversity. A disposition wantonly inclined to create the greatest amount of trouble possible to others, an apparent delight in contemplating the mischief and destruction which their own hands have wrought, a seeming absence of even a vestige of the sentiments of gratitude, affection, or of the instinct of love as found even in the lower orders of animals; in short, a general hardness of the whole moral nature seems much more to distinguish a great number of cases than any disturbance in the power of memory, perception, or judgment, or of that class of faculties, which, in their entire state, constitute what is termed reason. Indeed, in very many instances, where these latter components of an entire mind have been restored, this seemingly diseased state of the moral sentiments will remain as if it constituted the very foundation of the abnor-

mal phenomena of the case. I suspect, moreover, that the efficiency of the treatment obtained in an institution expressly for the insane, is much more shown in the removal of what may be styled the intellectual aberrations, than of the moral perversities of which we make mention. The constant observation of these facts has, probably, led some observers to conceive that a state might exist, deserving the name of an insanity, in which the mental operations, strictly considered, remained wholly unimpaired. The admission of such a state of facts is a matter of great magnitude. There could be no limit set to its conclusions short of an embrace of a large share of what we consider the catalogue of crime. Already some pretenders to psychological science have thrown reproach upon the entire plea of insanity in criminal cases, by substituting the captivating name of moral insanity for what is nothing else but sheer villany. No instance has fallen under my observation where any man of professional standing as a psychopathist has maintained this doctrine in any court of justice,—the only place where it assumes high practical importance. Yet, to apply the term "moral" to insanity in the general, or to any of its forms, is virtually conceding a great deal too much, unless we are willing to concede a great deal more. As a mere philological matter, the word "moral" may be applied to insanity as well as the word "mental;" it is the question whether the application had better not be made, where it is required, by the religious teacher, in whose province it lies. But *our* insanity,—the insanity of the psychopathist and the physician, the insanity as treated by the great authors on the subject, and for whose cure insane asylums are founded,—has a meaning which is in part revolutionized when the adjective "moral" is made its prefix.

It is an undecided question, whether what are called the moral characteristics have some distinct existence, and can be separately considered and treated of, or whether they are the fruit, so to speak, of certain mental processes. Nothing would be gained by an attempt to argue a point of such nicety, and where so little of a conclusion could ever be reached, and the better way will be to inquire whether a case answering our idea

of the disease is ever seen. We cannot call anything moral insanity, except an impulse to do wrong or criminal acts, so uncontrollable by the processes of reason,—themselves being unimpaired,—as to amount to a disease. Any appreciable disturbance of mental integrity of course puts the case in another category.

To show how rare such a condition must be, I have carefully reviewed about twenty-four hundred cases of insanity treated, and am unable to recall a single case possessing even the general features of the ideal which the mind conceives as the disease in question. Dr. Workman, the Superintent of the Provincial Lunatic Asylum, Toronto, C. W., cites a case in the April number of the *American Journal of Insanity*, as being the first case of the kind found in two thousand cases treated. It is evident, in the narration of this case, that the author of the article describing it has some misgivings as to its nature; and a careful reading of its description will lead many others to the belief that Solomon's remedy for moral obliquities would have been, in this case, the suitable one. Now, here we have one case cited in an aggregate of forty-four hundred, and that a doubtful one. Is that a percentage worth basing a nosologieal distinction upon?

When we examine those cases which are cited by authors who treat of this disease, the conviction is forced upon us that in many, if not most of them, there is real intellectual disturbance, though masked by the stronger manifestation of moral perversity; and that these writers have fallen into the common and very natural error of making some isolated, though very impressive case, stand as the representative of an imagined class.

It has always seemed as if all that is included in the idea of moral insanity, might be better disposed of by a closer reference to some phenomena of insanity which are of every day experience, than by recognizing a distinct disease, the support of which involves so much of perplexity.

Every one realises how few of the delusions of the insane mind are ever revealed, and how readily they are revealed under

one set of circumstances and concealed under others. All insane asylums abound in cases of unquestionable mental disease, where its palpable manifestations are so obscure that the unskilled observer would doubt its existence. A certain suspicious reserve, a mysterious shyness of manner, some haughtiness of bearing, or something marked and singular in tone of voice and manner of utterance, some strange attachment to some particular position or seat, or special stress applied to the doing of some act, may be all that distinguishes the individual from other men. Yet one guided by experience, has no hesitation in declaring such cases to be instances of a latent delusion, and is prepared for the sudden exhibition of extreme or violent acts, of which any of these almost unobserved antecedent peculiarities furnishes the explanatory key. In such cases, the extent of the disease is not at all measured by what appears on the surface, and those who treat the insane are constantly surprised by the revelations of recovered patients, as to the multitude and singularity of the delusions which possessed them while in a state which seemed, for all discoverable signs, so little removed from full enjoyment of reason. The delusion may be, indeed, completely latent, having no outward manifestation whatever, and yet may give rise to all those singular, inexplicable, and, perhaps, criminal acts, which a failure to explain by any accompanying indications of delusion has styled moral insanity. It is very easy to conceive a case possessing the declared attributes of the disease called in question; but before admitting the fact, the possibility of a latent delusion underlying its characteristic perversities of conduct, should be well considered.

It may be said, in reply to this view of the subject, that it assigns to delusion too indispensable a place in all cases of insanity, whereas it is well known that in a vast multitude of cases it has no demonstrable presence. This does not necessarily follow. Delusion among the insane may be supposed to bear about the same relative part in their unnatural acts that a well-defined motive does in the acts of those who reason correctly. Persons possessed of reason perform the larger portion of their acts from no well-considered motive of which they are

conscious. Acts are done from an impulse which is, after all, the result of some former reasoning process. So the phenomena of moral insanity, so called, may follow some former diseased process of thought of which the individual himself has no consciousness, and which, of course, no skill of another could detect.

Another explanation of the phenomena termed moral insanity should not be lost sight of. We are apt to forget the vast conservative power of reason in saving man from the depraved appetites and instincts common to him with the brute creation. Swift has well shown the humiliation of our species, when man's reason was given to the brute and himself left without it. We all remember, in the entertaining narrative of Captain Gulliver, what a sorry brute man becomes when thus transformed. A human being, born without reason, or possessing it only to a low degree, becomes an instance such as we often see illustrating this point. The instincts of the idiot are low, and are prevented from becoming depraved only by the amount of reason which he has. The small degree of reason that he possesses may educate the faculties of fear, of censure, and punishment, and love of approbation, and may cause him to imitate his superiors by a propriety of conduct that may set him above criminal acts. The same power exerted over the moral propensities by the processes of pure reasoning, is also shown in the cases of children. Childhood, notwithstanding the praises bestowed on it as the unsullied spring-time of existence, does not compare with mature age in the rightfulness of its acts. The burglary and murder of birds-nesting peculiarly gratifies the juvenile heart, and how often must the ghost of the family cat, done to death by truant hands, haunt the little murderer's pillow. Whoever has looked, too, upon a quarrel in petticoats, waged for a bit of cake, sees a ferocity as great almost as the death-struggle of mortal foes. Yet, what but the power of pure reason, working through years, changes these robbers, murderers, falsifiers, and belligerents into discriminating judges, and reverend dispensers of the gospel of mercy and peace? And how easily and naturally will an inclination to those same acts

return when that essence which has rescued from them is withdrawn.

Hence the position taken, that moral insanity, if by that term is meant a disease of the affective faculties, in which the intellect has no share, has no proved existence; and that what has received that appellation is nothing more than either the result of a latent, undetected delusion, whose *modus operandi* we are unable to demonstrate, or the passive effect of a weakened influence of the reasoning powers over man's baser instincts.

A review of minor mental maladies would be incomplete without mention of that form of well-known mental disease which will be more quickly recognized from some of its leading features than by any name that could possibly apply to it. It seems to consists in a love for the extreme, the eccentric, and the general opposite to the received opinions, practices, and fashions of the rest of mankind. One would believe this class to be much more numerous than it really is, from the facility with which a single individual, having played himself out in one character, turns up in another. To him, all the world is, literally, a stage, which he crosses every time the last new, strange idea finds a lodgment in his quickly receptive, but perfectly non-retentive brain. In religion, he follows a side track, with none but his kindred motley associates, no two of whom agree, except in the common opposition to everything established by the concurrence of the rest of mankind. In politics, he is so far advanced from every body else that he is rarely overtaken, and should he be, he disappears entirely, his occupation being gone the moment he finds the world at the same goal with himself. This class possesses affinities of its own; it has its own special literature,—a something, part medical, part religious, and part politico-economical,—and if not actually a species of insanity, it is the best recruiting ground for the insane asylum.

A solitary life is not only the surest preparation for mental disease of the most unpromising kind, but where it exists from confirmed choice may, of itself, be regarded as a species of

insanity. No one is safe from the visitation of mental disease who allows one of the natural connections which hold him in his place, as a social being, to be broken. Decidedly the most powerful conservator of reason in the individual is that constant exercise of the moral and mental faculties which a close relation to society creates. Those whose habits or associations hold society at arm's length, must always be considered in peril. Happy is the man, in this point of view, whose daily bread comes from the hands of those with whom he daily associates. A true record would show that a large part of the eccentricities, irritabilities, and consequent calamities of authors, arise less from the close kindred of wit and madness than from the unlucky ability to draw fame and fortune from a distance.

If I were required to produce a lunatic to order, I would take, as the raw material, the college student in his bachelor hall, provided with his needle-book, spools, and the inevitable bag of buttons. Buttons, I grant, are good, but if they are simply holding together the lapels of coats, and are having no part in the social commerce between awkward dependence and quick and tender sympathy, they are as naught. Having thus established a social non-conductor, if I then could introduce into my subject some strange element of religious belief, some crotchet of unheard-of philosophy, or, even some *outre* taste in matters of every-day life, I could safely lay my work up to dry, fully confident that time would do the rest.

A recognition of these various forms of mental disease is of especial importance in their relation to medical jurisprudence. This department of medical science is shorn of much of its value in shaping the administration of justice, by overlooking the importance of these minor mental maladies in multiplying infractions of the law. The physician is always ready enough to throw the influence of his opinion into the scale where great crimes have attending circumstances, out of which science can show proof of irresponsibility from mental disease; but he is not so often willing to ask himself the question, in lesser offences, how much of mitigation there may be in some incipient mental malady which none suspect, and which it is no one's

business to think of but his. To my own certain knowledge, the courts of this State are continually sending palpable insane men to its penitentiary, from which only their lack of profit as workers releases them. We cannot say that medical science has fully vindicated itself, till this blemish on our civilization is wiped away.

It was the remark of one, not more distinguished for his large acquaintance with the insane than for his eminence in other respects, that "an insane asylum is the best of all standing proofs of the doctrine of special providences." This remark implies a wonder at the small number of casualties that attend the association of many individuals, so large a proportion of whom are moved by the most dangerous promptings; and, among the surprises before alluded to, on hearing from convalescent patients of the strange hallucinations that have attended their disease, not the least is that they so unfrequently carry the delusions which possess them, into violent acts; and so far from being jealous of the introduction of the plea of insanity in criminal cases, our surprise is that it does not oftener occur.

It is one of the duties of medical men to keep themselves, in some degree, acquainted with their local court calendar of criminal trials, and be vigilant lest the heavy wheel of justice tread into the mire some broken but blameless spirit, whom no friendly hand is outstretched to save.

He who "spake as never man spake," uttered, as the most solemn of all his reproaches, "I was sick and in prison, and ye visited me not." As the insane are sick in a double sense, how deep the obligation becomes to every conscientious mind.

At this time it is the fashion to decry the medical expert who lifts up his voice from the witness-stand, to temper the stroke of justice as it descends on the head which God, in his mysterious wisdom, has already smitten. But sneering will no more blow away an eternal fact, established in a disease, than railing could lift the seal from the Jew's bond. The plea of insanity has found its firm stand at the criminal bar, and will continue to reäppear through all time; and the clear voice of

medical science, heard above all the scoffers that time can engender, must be raised as long as it is true to the vocation with which it is called.

ARTICLE XX.

REPORT OF THE COMMITTEE ON SURGERY, TO THE ILLINOIS STATE MEDICAL SOCIETY.

By PROFESSOR E. ANDREWS, of Chicago.

The department of surgery has made some important advances since our last meeting, which your Committee deem it important to note and discuss. Not only have we the ordinary improvements of peace to chronicle, but also the bloody experience of war. It will, therefore, be advisable to divide this Report between the two topics of Civil and Military Surgery.

CIVIL SURGERY.

To a State Medical Society it is appropriate to recount, first, such improvements as have originated within our own borders. Among these, we have observed a new mode of treating ununited fractures, devised by Dr. PRINCE, of Jacksonville. The principle is applicable only to oblique fractures; and consists in a mode of making pressure of the two fragments against each other laterally, without compressing the soft parts. For this purpose, a strong steel semi-circle is constructed of a size rather more than sufficient to embrace the limb to which it is to be applied. From either end a narrow conical point projects towards the centre, far enough to reach the bone. One of these advances and recedes by means of a thumb-screw. In the use of the instrument, a puncture is made on opposite sides of the limb, in such a position that one puncture shall come down upon one fragment of broken bone and the other upon the other, at the place where they lap by each other. Into these incisions the two points of steel are inserted, and the extremities carefully placed upon the bone. The movable point is then screwed firmly in, by which means the fragment of bone against which

it rests is pressed against its fellow with great force, and held there with entire security. In this way, excellent cures have been made with very little inconvenience to the patient or surgeon.

Some improvements have been proposed in the treatment of ordinary fractures. Professor ANDREWS, of Chicago, has devised an instrument for making counter-extension by adhesive-straps. It consists of an iron rod, four feet long, which is cut to a screw the whole length. This slides into a brass tube of the same length, the distance to which it goes being determined by turning a nut upon the screw. The upper end of the tube is continued by a steel bow, which is intended to curve in front of the shoulder, and bears a hook at the extremity, which lies just above the top of the shoulder. A cross-bar at the foot of the instrument is attached to the leg in the ordinary way by adhesive straps for extension. The counter-extension is then made as follows:—Three large adhesive-straps are cut, two of which are two yards each in length and three inches in width. A third is provided, a yard and a-half in length, and of the same width as the former. One of the long straps is applied from the front of the abdomen, on the same side as the fracture, straight up to the shoulder; it is there turned straight down the back, leaving two inches of slack at the top of the shoulder. The other long strap is applied as follows:—One end is placed obliquely across the trochanter of the sound side, the strap is then carried obliquely up and across the abdomen and chest, meeting the other strap at the shoulder; it is there turned down the back obliquely, leaving a slack as before, and terminates by returning across the trochanter at the starting-point. The third strap is then put as a belt around the waist to keep the others in place. The hook, at the top of the instrument, is then made to seize the slack of the straps above the shoulder, and the cross-bar at the bottom is attached to the straps at the foot. Then, by turning the nut on the screw, extension is made to any amount desired. The counter-extension thus applied, is distributed over so large a surface that it is absolutely painless, and does away entirely with the suffering occasioned

by the perineal band. Dr. DODGE, of Janesville, has improved this instrument, by adding a foot-piece, and also by making the bow of spring-steel, so as to have the advantage of its elasticity.

The treatment of diseases of the knee and hip-joints has made immense advances within three years. Dr. H. G. DAVIS, of New York, has been more active in this department than any other man. Without going into the history of the matter, suffice it to say, that the following is the best system of treatment, in view of all the latest discoveries:—Both these joints are managed in the same manner. If the disease is seen in the first stages, a splint is applied at once, which is contrived to make counter-extension by an elastic perineal band, and extension by adhesive-straps, the splint itself being accurately applied to the outer side of the limb, and the lower extremity of it strapped close against the leg. A suitable extension is then made by an endless screw, which being turned, the joint is drawn out, so that the inflamed surfaces of the bones no longer press or rub on each other. In this way, the chief cause of the continuance of the disease is removed, and most of the cases recover. The patient is, at the same time, put upon tonics. Professor ANDREWS, of Chicago, has improved the splint, by having it pass up upon the inner side of the limb, and making the counter-extension not by a perineal band, which is apt to hurt, but by a broad padded crutch piece accurately moulded to fit the perineum and nates. The lower extremity passes quite down to the ground, where it is attached to the sole of the shoe. Adhesive-strap extension is used as before; and, in walking, the weight of the body is not brought upon the limb, but transmitted directly through the instrument to the ground. There is also this additional advantage, that, in case of hip-disease, if it proceeds to the second stage, the splint being upon the inner side of the limb, is not soiled by the discharges of the ulcers nor in the way of dressing them.

The treatment of erysipelas has, during the past winter, received some special attention. Dr. FISHER, of Chicago, has made use of the sulphites of lime and soda with striking success. His experiments were prompted by the investigations of Dr.

Polli, of Milan, Italy. Dr. Polli operated upon nearly seventy dogs, producing pyæmia artificially, by injecting putrid pus and blood into their veins, and treating them with the sulphites. These tests were prompted by the well-known power of the sulphites in arresting fermentation, combined with the belief that erysipelas, pyæmia, hospital gangrene, etc., were zymotic or fermentive in their pathology. The results of Dr. Polli's operations, if correctly reported, show a surprising power in the sulphites over this class of complaints, but he does not appear to have ventured his treatment upon the human subject. Dr. Fisher administers the article in drachm doses, repeated every three or four hours. He prefers the sulphite of soda when the bowels are constipated, and the sulphite of lime when they are too lax His belief is, that the disease is perceptibly mitigated in twenty-four hours; and, in all cases thus far, a rapid recovery has ensued. Professor Davis, of Chicago, has repeated the experiments with favorable results.

Many improvements have been proposed in ophthalmic surgery. Among these, the frequent use of iridectomy, or cutting out portions of the iris, in cases of glaucoma, has attracted most attention. The theory is, that glaucoma is caused by excessive secretion of the fluids within the eye, by which it is rendered too tense, and its contents are injuriously pressed upon. An incision is made near the edge of the cornea, and a portion of the iris, amounting to about one-third, is drawn out through it and snipped off with the scissors. As the iris is the most active secreting organ in the eye, the production of fluid is thus abated, the pressure diminished, and the evil cured or mitigated. There is no doubt of the frequent benefits derived from this operation, but the mania for its performance, which manifests itself among some writers, needs a little check, lest it lead to abuses.

Spinal diseases are much more successfully managed than formerly, especially curvatures. The apparatuses now used are much more efficient than those formerly constructed; and we cure many patients whom we formerly considered as doomed to helpless and hopeless deformity.

MILITARY SURGERY.

Illinois has contributed her medical men liberally to the necessities of the war. These men all passed a rigid examination before a Board appointed for the purpose, and a large number of incompetent men were thus prevented from obtaining positions. In consequence of the faithfulness of the examiners, the medical officers of the Illinois troops stand very high in respect to skill and capacity.

Under the first call for troops, the Board of Examiners consisted of

Professor N. S. DAVIS, of Chicago,
Dr. C. RYAN, of Sangamon Co.,
Dr. G. W. STIPP, of McLean Co.,
Dr. WM. CHAMBERS, of Coles Co.,
Dr. CARPENTER, of Coles Co.

At the second call, a new Board was appointed, which, by occasionally filling vacancies, has been continued in full force to the present time. The names of the gentlemen who have been or are now members of it are as follows:—

Professor H. A. JOHNSON, of Chicago,
Dr. H. W. DAVIS, of Paris,
Professor H. WING, of Chicago,
Dr. O. M. BRYAN, of Sycamore,
Dr. R. ROSKOTTEN, of Peoria,
Professor D. BRAINARD, of Chicago,
Dr. D. K. GREEN, of Salem,
Professor A. L. MCARTHUR, of Joliet.

Up to January 1st, the Board had examined 595 candidates. Of these, 259 were recommended for Surgeons, 266 for Assistant-Surgeons, and 70 were rejected.

We are gratified to state, that the surgeons from this State have, generally, done themselves honor.

As a portion of your Committee has been engaged in active field service during the year, we are enabled to present to the Society some conclusions which we have derived from a large number of gun-shot wounds, with the operations and results

consequent upon them. Much of this information we obtained by personal observation upon the field, and all of it from thoroughly reliable sources.

The wounds were distributed through the body in the following proportions:—

Wounds of the	Head,	50
do.	Neck,	10
do.	Trunk, (not including pelvis,)	164
do.	Arm,	69
do.	Elbow,	14
do.	Fore-arm,	43
do.	Hand,	77
do.	Hip,	43
do.	Thigh,	109
do.	Knee,	26
do.	Leg,	79
do.	Foot,	50
Total,		734

Injuries of the Head.—We saw great numbers of these in different battles, of whom we could obtain no record. Our recorded cases are 50 in number, which were distributed as follows: flesh wounds and contusions 30, fractures of the face 9, fractures of the cranium 5. The small number of fractures of the cranium results from the following causes: 1st, many wounded in the brain die on the spot, and never appear before the surgeon; 2d, the face lying in front of the cranium, often shields it; 3d, many bullets, striking the cranium obliquely, glance off, merely plowing the scalp. Of these 5 fractures, 2 were from bullets penetrating the brain, and 3 from pieces of shell or oblique bullets. They all died without exception; only 1 was trepanned, and he without benefit. The general result in military surgery is, that gun-shot fractures of the cranium are fatal, and that trepanning is very seldom useful. In penetrating wounds of the brain, the bullet drives before it numerous fragments of bone, hair, clothing, etc., which lodge in the cerebral substance, and occasion hopeless inflammation. A few un-

recorded cases of recovery, however, came to our knowledge, and it is worthy of notice that these were, without exception, wounds of the anterior lobe of the brain, which, for some reason seems to sustain injury with less mortality than any other part.

Of the 9 fractures of the face 5 recovered, 1 died, and 3 remained in a doubtful state. Bullet wounds in the bones of the face are somewhat prone to be followed by secondary hæmorrhage.

Of the 30 flesh wounds, 16 recovered, 4 died, and 10 remained doubtful. Of the entire 50 wounds of the head, of all kinds, 26 recovered, 10 died, and 14 remained uncertain.

Wounds of the Neck.—These were 10 in number, and were all flesh wounds; 6 recovered, and 4 remained in doubt. Wounds of the large vessels, and fractures of the cervical vertebræ usually die on the field, at once, without coming to the notice of the surgeon.

Wounds of the Trunk.—Under this head we include the shoulder, but reserve the hips for a separate consideration, as thus considered, the wounds of the trunk were 164 in number; 36 penetrated the lungs, 10 pierced the cavity of the abdomen, 31 were flesh or fracture wounds of the shoulder, and 87 were flesh wounds of various regions, or fractures of ribs, not penetrating any cavity.

Of the 36 wounds of the lung, 12 recovered, 18 died, and 6 were uncertain.

Of the 10 wounds penetrating the cavity of the abdomen, 2 were stabs, and 8 gun-shot wounds. The stabbed cases both recovered; but of the 8 bullet wounds, 6 died, and 2 remained in doubt. There was very little hope of them, however, and they should, probably, all be reckoned as dead. With very few exceptions, bullet wounds into the abdominal cavity are all fatal. It may be a question worthy of serious thought, in view of the hopelessness of our present practice, whether we ought not to cut boldly into the abdominal cavity, wash out the filth, and, bringing the wounded intestine to the surface, endeavor to produce an artificial anus.

Of the wounds of the shoulder, 31 in number, 20 recovered, 2 died, and 11 remained in doubt.

The 87 superficial wounds of the trunk all recovered.

Of the total number of those wounded in the trunk and shoulder, 20 died, 142 recovered, and 2 were doubtful.

Wounds of the head, neck, and trunk, from their nature, seldom admit of much surgical assistance; taken as one class, they present a mortality of about 20 or 30 per cent; which may be somewhat diminished by good care, or horribly increased by bad air in a crowded hospital; but can be little affected by operative measures, except in a few instances.

Wounds of the Arm.—The very opposite is true, however, of the wounds of the extremities; here the skill and sound judgment of the operator are of immense value, and the correctness or error of his measures will produce vast changes in the ratio between mortality and recovery.

Of wounds of the arm, our records show 69 cases, of which 28 were compound fractures of the humerus, and 41 were flesh wounds. The flesh wounds all recovered; of the fractures, 21 recovered, 4 died, and 3 were in doubt. In 6 of the fractured cases, the shoulder-joint was resected; of which, 5 recovered, and 1 died. In 6 others, amputation was performed at the shoulder-joint; of which, 4 recovered, and 2 died. In 8 cases, amputation of the arm was performed; of which, 7 recovered, and 1 is unknown. In 8 cases, no operation was performed, and the fracture was treated with splints; of these, 7 recovered and 1 died.

The ratio of mortality in all the gun-shot fractures of the humerus is 1 in 7. The question of the grounds of choice, between resections and amputations of the extremities, will be discussed below, under the head of operations.

Wounds of the Elbow.—Of these, 4 were flesh wounds, of which, 2 recovered, and 2 are unknown; 10 cases were compound fractures of the joint, of which, 7 recovered, 1 died, and 2 remained undecided. In 4 of the cases, resection of the joint was performed, of which, 3 recovered, and 1 died. In 3 cases, amputation of the arm was resorted to, of which, 2 recovered, and 1 was not decided. In 3 cases of less severity, no operation was performed, and all recovered.

The total number of wounded in the elbow was 14; of whom, 9 recovered, 1 died, and 4 remained doubtful.

Wounds of the Fore-arm.—Of these, 27 were flesh wounds, and 16 were compound fractures. Of the flesh wounds, 22 recovered, and 5 were doubtful. Of the compound fractures, 10 recovered, and 6 remained in doubt.

In 4 of the cases, amputation was performed, and all of them recovered; no death, therefore, was observed from wounds of the fore-arm.

Wounds of the Hand.—Of these, 38 were flesh wounds, of which, 37 recovered, and 1 died; 25 cases were fractures of the phalanges, of which, 18 recovered, and 7 are unknown; 9 cases were fractures of the metacarpals, of which, 4 recovered, and 5 are unknown; 5 cases were fractures of the wrist, of which, 3 recovered, and 2 are doubtful. 24 fingers were amputated, of which cases, 19 recovered, and 5 were not heard from. One amputation was performed through the metacarpals,—result unknown. One shot across the metacarpals was very unjustifiably treated by amputation of the fore-arm, four inches above the injury; the patient recovered.

Total wounds of the hand, 77; known mortality, 1.

Wounds of the Pelvic Region.—40 flesh wounds of this region occurred, of which, 30 recovered, 3 died, and 7 were undecided; 1 of the 3 cases which died was wounded in the bladder, another perished of secondary hæmorrhage and general exhaustion, from the bad air of an overcrowded boat, and the third died suddenly from cause unknown.

Only 3 cases of fracture of the pelvis were brought to our notice, 2 of which recovered, and 1 died; the viscera were not wounded in either. Total wounds of the pelvic region, 43.

Wounds of the Thigh.—This is a most important division of the field of military surgery, and from it spring some of the most trying and difficult questions which are ever laid before the operator for decision. The discussion of these questions will be given below, under the head of operations.

The total number of wounds of the thigh was 109, of which, 90 were flesh wounds, and 19 were compound fractures. Of the

90 flesh wounds, 76 recovered, 3 died, and 11 were doubtful; of the 19 fractures, 6 recovered, 12 died, and 1 was doubtful; 5 of the fractured cases were amputated at the upper third, of which, 1 recovered, and 4 died; 3 were amputated at the middle third, of which, 2 recovered, and 1 died; 1 was amputated at the lower third, and recovered; 2 cases were treated by resecting the fractured portions in the continuity of the shaft, both of these died; 9 cases were treated without operative interference, by simply employing splints, position, and such incisions as were necessary to evacuate pus, of these, 3 recovered, and 6 died. 2 of those which recovered were shot in the cancellar tissue of the neck or trochanter, where any operation must necessarily have been amputation at the hip, or excision of the head of the bone; 1 of them lay twenty hours on the field, in very raw and cold weather. It would seem that shots through the cancellar tissue, at the superior fifth of the femur, are much less dangerous than those in the compact bone of the shaft below; the reason is, that when a ball bores its way through spongy bone, it produces only a moderate amount of shattering, owing to the yielding character of that tissue: but the impact of a minnie bullet upon the brittle ivory of the shaft, shatters it for several inches, and disperses the fragments with the force of an explosion among all the surrounding tissues, producing immense disorganization. These cases nearly all die within the first five days, no matter what treatment is adopted.

Wounds of the Knee.—There were 26 wounds of the region of the knee, of these, 14 were flesh wounds, and 12 were compound fractures; 12 of the flesh wounds recovered, none died, and 2 remained doubtful. Of the 12 compound fractures, 5 recovered, 4 died, and 3 remained doubtful; 10 of these fractures were treated by amputation at the lower third of the thigh, of which, 6 recovered, 3 died, and 1 remained in doubt; 1 case was treated by resection of the knee-joint, and recovered; 1 was treated without any operation, and died. In this connection, it may be remarked, that we observed a considerable number of cases of gun-shot fractures of the knee at the battle of Shiloh, very injudiciously treated as ordinary fractures,

without any operation; as we could obtain no record of the cases, we have not entered them in the lists, but we never knew one to recover. Let any young surgeon, who is reluctant to sacrifice the limb or joint in these cases, take the trouble to dissect two or three of them, and he will see at once why they all die, unless they are amputated or resected. The bullet disorganizes the interior of the joint in a most surprising manner, filling it with five hundred fragments of bone and cartilage and putting it in a condition from which no human frame can recover without operative help.

Wounds of the Leg.—These were 79 in number, of which, 56 were flesh wounds, and 23 were fractures. Of the 56 flesh wounds, 51 recovered, 1 died, and 4 were undecided; of the 23 cases of fracture, 14 recovered, 7 died, and 2 are unknown; 12 of the fractures were treated by amputation of the leg, of which, 11 recovered, and 1 died; 1 was treated by amputation of the lower third of the thigh, and recovered; in 1 case, a portion of the bone was resected, which also recovered; 8 cases were treated by splints, without any operation, of these, 2 recovered, 4 died, and 2 remained doubtful.

Wounds of the Foot.—These were 50 in number; 31 were flesh wounds, and all recovered; 4 were fractures of the phalanges, and all recovered; 6 were fractures of the metatarsus, of which cases, 4 recovered, 1 died, and 1 is unknown; 9 were fractures of the tarsus, of which, 7 recovered, 1 died, and 1 remained doubtful; amputation of the toes was performed in 4 cases, which all recovered. No amputation through the metatarsus occurred; one amputation through the tarsus was performed, and the patient recovered. In 4 cases the leg was amputated, of which, 3 recovered, and 1 died. A portion of the tarsus was resected in 1 case, which recovered.

Predominance of wounds on the Right Side of the Body.—In western warfare, the constant occurrence of battles in the forest gives predominance to the operations of skirmishers, who deliver their fire usually from the right hand side of the trees that shelter them; in consequence of this, the right hand, arm, and shoulder, and the right thigh, knee, and leg, receive many more wounds than the left.

Discussion of the Operations.—The operations in these cases were, for the most part, executed by well educated and skilful men, so that there was little occasion to criticise them. In respect to the mode of their performance, they will compare favorably with similar operations in any other army. There were some errors of judgment, respecting the kinds of treatment to be decided upon, but not more than was to be expected.

The following tables show the number and locality of the operations:—

Amputations.

	Recover'd.	Died.	Doubtful.	Total.
Amputations at the shoulder-joint,	4	2		6
do. of the arm,	9		2	11
do. do. fore-arm,	5			5
do. do. hand,	1			1
do. do. fingers,	19		5	24
do. do. thigh, upper third,	1	4		5
do. do. do. middle do.	2	2		4
do. do. do. lower do.	7	3	1	11
do. do. leg,	14	2		16
do. do. foot,	1			1
do. do. toes,	4			4
Total,	67	13	8	88

No case occurred in which we felt justified in amputating at the hip-joint.

Resections.

	Recover'd.	Died.	Doubtful.	Total.
Shoulder-joint,	5	1		6
Elbow-joint,	3	1		4
Parts of hand,	1		1	2
do. shaft of femur,		2		2
Knee-joint,	1			1
Parts of fiblua,	1			1
do. foot,	1			1
Total,	12	4	1	17

Ligations of Arteries.

(Generally for secondary hæmorrhage.)

	Recover'd.	Died.	Total.
Sub-clavian artery,	1		1
Sub-scapular do.	1		1
Facial do.	1		1
Axillary do.		1	1
Profunda femoris artery,	1		1
Femoral artery,	2	1	3
Total,	6	2	8

In reviewing these tables, it is a matter of profound regret that among some thousands of wounded, who, in different battles have been under the care of ourselves and others, we were able to trace out the results of so few cases; still, the careful observation of the facts here recorded, combined with statistics from other sources, will help to set at rest the most prominent of the disputed questions of military surgery.

The practical questions before the military operator are, mainly, the following:—

1. What cases require amputation?
2. What cases require resection?
3. What cases should be treated without operative interference?
4. What variations from accepted rules must be made, in view of special military exigencies.

First then:—

What cases require amputation?—The rule is now well established, that the military surgeon may go almost all lengths in his efforts to preserve superior extremities; but that in the inferior, amputation must be very extensively practiced.

Amputation of the Shoulder-joint.—This is only required in cases where an arm has been torn off by a cannon-shot, or otherwise so hopelessly disorganized as to render mortification of the whole limb inevitable. If the head of the humerus only is shattered, resection should be preferred. In our experience, as shown in the above tables, amputations at the shoulder have had a mortality of one in three, while resections of the joint only showed a loss of one in six.

In the Schleswiek, Holstein, campaign, ESMARCH gives the results of 19 resections of the shoulder, of which, 12 recovered, and 7 died. GUTHRIE quotes 44 cases of amputation at the shoulder-joint, in the British Wars with Napoleon, of which, 17 died. Combining all these statistics, we find the following results:—

	Total. number.	Recover'd.	Died.	Per cent of deaths.
Amputations at shoulder,	50	31	19	38
Resections of do.	25	17	8	32

Showing an advantage of 6 per cent in favor of resections.

In addition to the diminished risk, the great value of the preserved limb is to be taken into account. After resection, the use of the elbow and hand is perfect; and some soldiers have even returned to duty as soon as the cure was perfected. In case of doubt whether an arm can be saved, time should be taken to watch the progress of the patient before deciding, for, although primary operations are preferable, yet the secondary ones are very well borne; and it is a man's duty to risk his life to some degree, for so important a member as a superior extremity. GUTHRIE fully sanctions the same opinion, when he affirms that amputations of the superior extremity should not be primary, unless the impossibility of saving the limb is obvious.

Sabre cuts and bullet wounds, simply opening the shoulder-joint, without serious comminution of the bone, do not render either resection or amputation necessary, as the patient recovers with anchylosis, in the majority of instances. If, however, the head of the humerus is badly comminuted, an operation of some kind is absolutely required, as the mortality in cases treated simply by splints, is found to be over 60 per cent.

Amputations of the Arm.—These should only be performed when there is no possibility of preserving the limb. Amputations for bad fractures of the humerus, or for shattered elbows, while there is still a good pulse at the wrist, are no longer justified by any respectable authority. It is often astonishing to inexperienced surgeons to see from what terrific injuries a wounded arm will recover itself. If the bone is shattered, the artery cut, and the anastomotic vessels also so extensively destroyed, that circulation in the limb ceases, amputation should be immediately resorted to. If, however, circulation continues in some measure below the injury, the loose fragments of bone should be picked out, and the limb dressed as for other compound fractures.

The mortality after amputations of the arm is but slight; of 11 cases in our records, not one died. Of 72 cases mentioned by GUTHRIE, only 17 died. Combining these statistics, we have the following result:—

	Total number.	Recover'd.	Died.	Per cent of deaths.
Amputations of the arm,	83	66	17	20½

Amputations in the Fore-arm and Hand.—As we recede from the body, both operations and injuries become less fatal. All the cases of amputation of the fore-arm and hand, of which we could obtain the results, recovered. The few who die, succumb not to the operation, but to the secondary effects of the deadly air of overcrowded hospitals. In every case where required, the amputation may be resorted to without fear; but it should be borne in mind that the fore-arm and hand recover from the most frightful looking wounds with surprising ease, and that every inch which can be preserved is of priceless value to the patient. In a mangled hand, almost every part which is not torn off may be preserved, and should be, generally, retained. We make these remarks, because we have observed that inexperienced surgeons will often be moved by the ghastly appearance of a fractured and lacerated hand, to undertake very unjustifiable amputations.

Amputations at the Hip-joint.—No case of this fell under our notice, as we all adopted the principle, that it was an operation which can scarcely ever be justified.

Amputations of the Thigh.—In this part of the body, we reverse the rules applied to the superior extremity. Instead of going all lengths to save the member, we incline more decidedly to prompt and resolute amputation on the field. Secondary amputations of the thigh are usually fatal, therefore, the decision of the surgeon must be made up on the spot, from the appearance of the case, and resolutely carried out. Our records show 20 amputations of the thigh, of which, 9 died, 10 recovered, and 1 remained doubtful, being a mortality of about 45 per cent. It is of the utmost importance here to observe the difference of mortality between the upper and lower parts of the thigh, because, on this difference are based life and death decisions. The following table illustrates it:—

	Total cases.	Recover'd.	Died.	Doubtful.	Per cent of deaths.
Amputated upper 3d of thigh,	5	1	4		80
do. middle do.	4	2	2		50
do. lower do.	11	7	3	1	27

Showing plainly that "every inch by which this operation approaches the body, increases its danger."

According to LONGMORE'S statistics, a similar percentage was observable in the Crimean Campaign, as is shown by the following table:—

	Per cent of deaths.
Amputation, upper third, in Crimean War, ...	87
do. middle do. do.	60
do. lower, do. do.	57

These figures show a more favorable result in our army than in the British, by an average of about 20 per cent. Combining the two tables, we have approximately the following:—

	Per cent of deaths.
Mortality of amputation at upper third, ...	83½
do. do. middle do.	55
do. do. lower do.	42

The obvious deduction of which is, that the amputation should be made as far from the body as the nature of the injury will possibly permit. Such being the frightful mortality of amputations of the thigh, we tried in two cases to produce a better result, by resecting the ragged ends of the broken femur, and then treating it as for compound fracture. Both these cases died within the fifth day. The same experiment was tried on the Potomac, by Eastern surgeons, and also in the Crimea, and always with the same result,—every case proving fatal.

Still, other experiments have been made, by treating the case simply as a fracture, without any other operation than an incision to evacuate the pus. STROMEYER quotes 4 cases of recovery. Our tables show 9 cases treated in this manner, of which, 3 recovered, and 6 died. These cases were mostly fractures above the middle; hence the mortality of 66 per cent is not greater than would have followed amputation in the same

place. In Europe, after the battle of Toulouse, this mode was tried on 43 of the most favorable cases, with a mortality of about 60 per cent, which, on the whole, is not much worse than the results of amputation, which, in nearly all fractures of the femur, must be as high as the middle, and has a mortality of 55 per cent.

A careful and very deliberate examination of this whole matter, has settled in our mind the following conclusions:—

1st.—A very large portion of the cases with badly comminuted femurs, will die within five days,—under all treatments, alike. There is no perfect reaction.

2d.—Shots through the spongy tissue of the trochanter and neck of the femur, are less fatal than those through the compact tissue of the shaft. This is contrary to STROMEYER'S opinion; but it is nevertheless true. The splintering of the bone, and consequent injury of soft parts, is far less in this spongy part than in the ivory-like shaft below. These cases of fractured neck require neither amputation nor resection of the head of the femur, a large part of them will recover with simple extension-splints and, in some cases, incisions to evacuate pus; whereas, amputations and military excisions at the hip-joint may be practically said to be all fatal. We know of 2 cases of this fracture which recovered without difficulty in straight splints.

3d.—Amputations above the middle of the femur should only be resorted to in desperate circumstances, where the limb below is either torn off or is so injured that it has but little prospect of escaping mortification. If the circulation and innervation are good below, a free incision should be made down to the comminuted bone, and the limb be dressed with a straight splint and adhesive-strap extension-bands. The case is a desperate one, but we are confident that this treatment will save more lives than amputation above the middle.

4th.—If amputation can be made below the middle of the thigh, it should be promptly performed, for all severe compound fractures of the lower half of the shaft of the femur, and all gun-shot fractures of the knee-joint. By this treatment, about 75 per cent of the patients may be saved; but if attempts are

made to save the limb, almost every man will die. At the battle of Shiloh, a large number of cases were treated with this false conservatism, and many lives sacrificed in consequence. If any young surgeon feels reluctant to sacrifice a fair and plump thigh, for a mere little bullet hole of very harmless appearance in the knee, we advise him first to amputate, and afterwards to dissect the limb; he will find within the joint a horrible disorganization, such as no man can reasonably hope to survive, without operative assistance.

Amputations of the Leg.—These may be resorted to whenever a useful limb cannot be preserved, as the operation is not excessively dangerous. If, however, the circulation in the foot continues, and a chance of future usefulness of the member presents itself, conservative surgery should be practiced; because the danger of postponing or omitting amputation is not great, even though the foot should mortify. One hint may serve to guard young surgeons against a natural error: when a bullet traverses through the tibia from before. backwards, the front opening in the skin is small. but the fragments of the bone are driven back among the tissues of the calf, producing more danger of mortification than the first glance indicates. On the other hand, if the ball has traversed from behind, forwards, it drives all the splinters outward through the skin in front, doing less real injury than in the former case, but still tearing open the skin, and everting the flesh over an area of two or three inches in diameter. The wound looks so hideous, that it is not uncommon for the inexperienced operator to be moved by it to cut off the better limb and save the worse.

Amputations of the Foot.—These may be decided upon and executed by the same rules as in civil surgery.

Resection of the Shoulder-joint.—The grounds of choice between this and amputation have already been discussed under the head of "Amputations at the Shoulder." It is to be preferred, in proper cases, both for its superior safety, and because it saves a most important limb.

Resection of the Elbow.—Our lists show 4 cases of this resection, of which, 3 recovered, and 1 died. ESMARCH quotes 40

eases, of which, 6 died. Combining the two sets, we have this table:—

	Number of cases.	Recover'd.	Died.	Per cent of deaths.
Resections of elbow-joint,	44	37	7	16
Amputation of arm,	83	66	17	20½

Showing an apparent advantage of 4½ per cent in favor of resection. As amputation, however, was often for severer injuries than those which required resection, it will, probably, be fair to assume that in injuries which admit of the choice, the risks of the two operations are about equal: but as resection preserves, and amputation loses the hand, the choice is unquestionably for the former. We, therefore, advise resection for all comminuted gun-shot fractures of the elbow-joint, in which the preservation of the hand is not hopeless from gangrene.

Resections of parts of the Hand.—These should be governed by the same rules as in civil practice.

Resections of the Knee-joint.—The great mortality of amputations of the thigh, has caused this operation to be proposed as a substitute in cases of bullet wounds of the knee. Our tables show only one case, and that recovered. From all sources, European and American, we are able to collect accounts of only 8 cases in military practice, of which, 2 recovered, and 6 died; a mortality of 66 per cent, which is 24 per cent worse than that of amputations at the lower third of the thigh. More extensive statistics, however, are needed to settle its true value. At present, we advise, both from our own observations and careful review of the opinions of other surgeons, that in case good air and freedom from motion can be had for the patient, resection of the knee may be preferred; but, if he must be transported far in an ambulance, or put in a crowded hospital, where there is less than 1200 cubit feet of fresh air for each patient, resection will prove fatal. Amputation should then be at once performed, for delay with a view to secondary resection is not to be thought of.

Resections in the Leg and Foot.—These are well borne, and follow the same rules as in civil practice.

Diseases of overcrowded Hospitals.—There is a class of deadly complications following the injuries of patients after nearly every large battle, which are almost solely the product of overcrowding and bad air. These are the following:—

Erysipelas,	Pyæmia,
Diffusive phlebitis,	Hospital gangrene.

About 10 or 15 per cent of the deaths in military surgery are from these causes, and I regret to say, that in many instances these dead are slain by the surgeon, whose stupid ingenuity was all expended in procuring beds in warm and close quarters, where the patients poison each others' blood, instead of having free air where they may breathe and live.

We have observed with pain, that, partly by military necessity, and partly by ignorance of ventilation displayed by surgeons, this error of overcrowding is repeated after almost every large battle, and perpetuated in most of our large General Hospitals.

If the weather is not so inclement as to endanger death from cold, we have no doubt that by far the best plan is to keep the patients dispersed for two or three weeks in open tents and booths in the field: for, although in this way they have less comfortable beds, and coarser food than in Post Hospitals, they get fresh air, and with that they often survive the most desperate wounds.

It is often remarked, that men wounded in occasional skirmishes, where they are kept with the Regimental Hospital in the field, seldom have erysipelas or pyæmia, and recover from their injuries far more readily than those sent away to large, square, six story buildings, like the Overton Hospital in Memphis, where overcrowding is frequently unavoidable, and perfect ventilation an impossibility.

The results of our observations in the army, under this head, may be summed up, therefore, in one sentence:—Let the military surgeon see that he gets fresh air for his men in preference to food, warmth, or shelter.

Men will lie in snow, on wet ground, or under open sheds,

and do well on bacon and hard bread; but, in close hospitals they will die, though they have all the luxuries of the world around them.

The principal military hospitals, within the bounds of our State, have been located at Mound City, Cairo, Quincy, Alton, Camp Butler, and Camp Douglas. The hospitals at Mound City and Quincy mostly received sick and wounded from the army in the field, while the others were simply the receptacles of the sick of the local camps. The Rebel sick were mostly at Camp Butler and Camp Douglas, and for some reason seemed to be entirely inferior to Northern men, in recuperative power. At Camp Douglas the ratio of mortality among them was double that of our own soldiers, although they had the utmost care and attention. It would be an important point added to our knowledge, to ascertain whether this difference arose from constitutional difference in vigor, previous bad hygienic management, or mental depression incident to being captured.

The writer of these pages only learned, after his arrival at Jacksonville, that no Report had been forwarded by the Committee on Surgery. He was, therefore, obliged to prepare this in the utmost haste, and without any opportunity for consultation with the other members.

ARTICLE XXI.

TWO CASES OF POISONING BY THE FRUIT OF THE PODOPHYLLUM PELTATUM OR MAYAPPLE.

By DR. D. C. OWEN, of Houston, Ill.

On the 4th of August, 1860, I was called upon to visit two children of H. C., who, the messenger said, were vomiting themselves to death. I enquired what the children had been eating or taking; he replied, that the parents thought the vomiting was caused by Mayapples, which the children had eaten in the morning.

I drove briskly on, and arrived at the place in, perhaps, half

an hour, where I found two very pretty little girls, aged, respectively, six and eight years, stretched upon their beds, bathed in cold perspiration; their faces pale as corpses; eyes sunken in their orbits; noses pinched; pulse very weak, and scarcely perceptible at the wrist; great thirst; and the stomach contracting so hard and rapidly, in efforts to vomit, that the wrenching pain would cause them to utter sharp screams, one after another, for five minutes at a time. I was told, that the vomiting had been going on for the last four hours, almost without intermission, it being now 12 M.

On examining the matters thrown from the stomach, I found them to consist, for the most part, of seeds, pulp, and membranous covering of the ripe Mayapple, having the peculiar odor of that fruit. I asked them, if they had eaten the rinds of the apples? They said, no; but they had used their teeth to rupture the rinds.

I informed the parents that the recovery of the oldest child was not to be expected, owing to the prostration already produced; but that the chances for the younger were much better. I gave the oldest 1 gr. sulph. morphine, covered the epigastrium and entire abdomen, which was tympanitic and very tender, with a blister; invited the blood to the extremities with hot flannels and sinapisms; gave carbonic acid water, in small quantities, to allay thirst; and, as the bowels had not been moved since the vomiting begun, ordered an enema of castor oil and molasses in warm water. To the younger I gave, perhaps, $\frac{2}{3}$ gr. morphine, and ordered the same course as for the other, except that for the blister I substituted mustard. They were now kept as quiet as possible for, perhaps, an hour and a-half, when the younger child was sufficiently under the influence of the narcotic to fall into a quiet sleep. The oldest now vomited again bilious matter mixed with blood,—the bile dark green and very thick, the blood dark and coagulated. She complained frequently of burning sensation in the throat. Finding that the injections had failed to move the bowels, I gave

Hydrargyri sub. mur.,.....gr. xij.
Morphine sulph.,.....gr. j.

They were now both getting warm extremities, the youngest still sleeping. I left powders of morphine and camphor, one of which was to be given after each act of vomiting, should it commence again, or after each stool, should the bowels act too freely. I directed the parents to do everything in their power to maintain the proper amount of heat in the extremities; and, if the means they were then using were not sufficient to keep up the warmth of the body, to use brandy by enema. For the youngest, I left similar powders and directions, should she require them.

Called, August 5th, at 7 A.M.—Found the oldest past all hope,—the eyes glazed and motionless, the death-rattle in the throat, the abdomen swelled almost to bursting, and the under jaw fallen. At half-past eight o'clock she expired. I learned that she had continued to vomit thick bile, with more or less blood mixed with it, about every hour through the night. The youngest child was considerably better, although there was considerable tenderness over the stomach, to remove which I applied a blister; gave Dover's powder to keep her quiet, slippery-elm water for drink, kept the bowels solvent with sulphate of magnesia; and, by the morning of the 8th, she was convalescent.

I have endeavored to give a simple statement of the facts in the above cases, as they occurred; and I will decline making any comments, more than to say, that, after seeing the deleterious effects of the Mayapple in these cases, I would not recommend them as being the healthiest article of diet that we can procure; and I have also kept an eye single on the action of podophylline.

Mental Condition of the King of Prussia.—A private communication from Berlin says:—"You may judge of the King's state of mind when I tell you that, some little time ago, His Majesty was possessed with the idea that a gallows, intended for himself, was being erected under the windows of his palace. Sitting at the window, and looking out upon the court-yard, he would repeatedly say, 'They're building it, they're building it!' I need scarcely add, that nothing was being erected there."

The Clinique.

MEDICAL WARDS OF THE MERCY HOSPITAL.

REMARKS ON DIPHTHERIA.

By N. S. DAVIS, M.D., Professor of Clinical Medicine, &c., Chicago, Ill.

GENTLEMEN:—The case which will illustrate the subject that will occupy our attention at the present hour, is before you. You will recognize him as a patient, to whom your attention was called eight or ten days since, on account of a sub-acute rheumatism in the ankles and tarsus, of each of the feet.

He was born in Ireland, is about 25 years of age, slightly anemic, and thin in flesh. He had nearly recovered from his rheumatic affection, and had been walking about moderately two or three days. Yesterday he began to complain some of soreness and stiffness in the fauces, with some lameness of the cervical muscles, and this morning we find him confined to his bed. If you now note his symptoms carefully, you will find the skin moderately hot; the pulse 90 per minute, soft and small; the eyes watery; the tongue covered with a whitish coat; the mucous membrane of fauces red, tumefied, and tender; the tonsils considerably swollen, and the whole inner face of each covered with a thick coat of diphtheritic exudation or membrane; and the lymphatic glands in the parotid and submaxillary regions, on both sides, considerably swollen. Thus, you have all the essential symptoms of a well-marked case of diphtheria.

If such cases as this are left to pursue their natural course, unmodified by treatment, the pulse usually increases moderately in frequency, but diminishes in force for several days. The skin continues dry and warm; the breath becomes offensive: the glands of the neck remain swollen and hard; the membranous exudation separates from the tonsils and fauces, leaving more or less irregular ulcerations, the discharge from which makes the saliva fœted, sanious, and abundant; a similar sup-

purative inflammation extends to the Schneiderian membrane, causing a muco-purulent discharge from the nostrils, and aiding the swelling of the tonsils in rendering the respiration rattling and sometimes difficult. In the meantime, the mental faculties become more dull, the patient being drowsy, with periods of restlessness and tossing of the extremities, and sometimes delirium. If it is tending towards an unfavorable termination, deglutition becomes more difficult, and the drink often regurgitates through the nostrils; and the pulse becomes very frequent and small; the extremities cool; the sphincters relaxed with involuntary discharges; very irregular respiration; and death. In some cases in which the general and local symptoms have progressed several days, without any unfavorable indications, the diphtheric inflammation extends suddenly to the larynx, adding the dyspnœa and cough peculiar to croup; and determining an early fatal result.

In a few instances, the diphtheritic inflammation attacks, simultaneously, the fauces and larynx, causing the peculiar symptoms of croup to be present from the beginning. Such cases are distinguished from simple pseudo-membranous croup or laryngitis, by the accompanying swelling of the glands of the neck, and of the fauces, and by the lower grade of general fever.

In a large majority of the cases of diphtheria, presenting the symptoms exhibited by the patient before you, the general febrile action continues moderate for five or six days; the patient complains much of weakness, and of difficulty or pain in swallowing; the membranous exudation gradually separates from the surface of the tonsils and fauces, leaving superficial ulcerations, and an abundant and moderately fœtid flow of saliva. The ulcerations heal in four or five days; the saliva becomes natural; all febrile symptoms disappear; and the patient becomes convalescent. In most instances, the convalescence is protracted and characterized by much weakness, and a susceptibility to renal affections, anasarca, swelling and suppuration of the lymphatic glands of the neck, and sometimes paralysis. It should have been mentioned that the urine is, in

many cases, albuminous during the active progress of the diphtheritic disease; and also, that diphtheritic exudations are not limited, in all cases, to the mucous membrane of the throat, but may appear on the mucous membrane of the genital organs, or upon cut or abraded surfaces in any part of the body.

Pathology.—From the symptoms of this case, and the brief general description of the disease just given, it is evident that diphtheria is not a mere local inflammation, but a general disease of a febrile character, accompanied by local inflammatory processes, more particularly in the fauces and glands of the neck. To understand its pathology fully, we must consider carefully those symptoms which indicate both the condition of the blood and the properties of the solids. The general tendency to the formation of membranous or diphtheritic deposits on all inflamed or abraded surfaces, the morbid condition of the secretions, and, especially, the offensive odor of the breath and saliva, plainly indicate a morbid condition of the blood, of a septic or degenerative character. The constant tendency to ulceration, and often gangrene, in the parts affected with local inflammation, the general feebleness of capillary circulation, the muscular debility sometimes ending in paralysis, and the dulness of the mental faculties, all point to an impairment of the elementary properties of the tissues, more especially that of vital affinity, by which all atomic and secretory changes are controlled in the living organization, and the organized structures are enabled to maintain their integrity. Hence, pathologically, we must class diphtheria with the typhoidal class of febrile diseases, in all of which there is an inherent tendency to degeneration or impairment of the properties of both solids and fluids throughout the system. Whether this impairment is caused by the introduction of some subtle poison into the blood, in the form of a contagion, infection, or miasm, which, by its presence, changes the properties of the blood, and thereby, also its relations, both chemical and vital, to the organized tissues; or whether it is caused by some occult atmospheric condition, by which the oxygen, electricity, and other ingredients of the atmosphere, fail to exert their accustomed sustaining influence on

the vital properties of the living organization, cannot be satisfactorily answered in the present state of medical science. But whatever may be the immediate cause, the existence of the pathological conditions described, can hardly be doubted by any one who has attentively observed the disease at the bedside. With the diminution of vital affinity in the solids, and the progressive deterioration of the blood, there is, necessarily, general impairment of both secretion and innervation.

From these views of the pathology of diphtheria, we may deduce four well-defined and rational indications for treatment:—

1st.—To arrest the deterioration of the blood.

2d.—To improve the vital affinity and, of course, the general tonicity of the tissues.

3d.—To restore the secretory organs to their natural degree of activity.

4th.—To mitigate the violence of such local inflammations as may exist in each individual case.

To fulfil the first of these indications, the chief reliance has been placed on chlorine, bromine, and iodine, or their salts, such as the chlorates of potassa and soda. From experiments recently made with the sulphites of soda and lime, and which have been fully detailed to you in former clinics, it is rendered probable that the sulphurous acid salts will be found more efficacious in the treatment of all the diseases dependent on blood-poisoning or a septic deterioration of that fluid, than those previously mentioned. As remedies for fulfilling the second indication, we place our chief reliance on quinine, iron, and pure air. Many resort to diffusable stimulants or exhilerants, such as the various alcoholic beverages. These agents, however, spend most of their direct action on the nervous centres, while, indirectly, they depress those elementary properties of the tissues which we deem it most important to sustain. If the two first indications are effectually fulfilled, the accomplishment of the third,—namely, to restore secretion,—follows as a necessary result. But in the early stage of severe diphtheria, the dryness of the skin, the scantiness of urine, and the general

febrile action is often such that much advantage may be obtained from the use of such remedies as exert a more direct influence over the more important excretory functions. For it must not be forgotten, that retained excrementitious matter may become as deteriorating to the blood, and as depressing to the properties of the tissues as the primary cause of morbid action.

Consequently, such remedies as aid in restoring a healthy activity to the organs of excretion are often indicated, both to prevent the accumulation of excrementitious matter and for facilitating the elimination of any poison that may have been imbibed as the cause of the disease. Mercurial alteratives, aided by mild diaphoretics and diuretics, will fulfil this indication more promptly and efficiently than any other means.

The means designed to act locally in combatting whatever local inflammations exist, must vary according to the extent, intensity, and stage of such inflammation in each case. In the early stage, the external applications to the swollen lymphatic glands of the neck, should be anodyne and discutient, such as an infusion of aconite leaves with muriate of ammonia dissolved in it. In the more advanced stage, when the glands remain indurated and swollen, stimulating liniments may be used: such as a combination of olive oil, oil of turpentine, and chloroform; or a mixture of camphorated soap liniment and tincture of iodine. To the inflamed surface of the fauces and tonsils, in the first stage, the local applications should be of a decidedly soothing character. All cauterizing or irritating applications in this stage, I am satisfied from close observation at the bedside, positively do more harm than good. In the latter stages, when unhealthy ulcerations or gangrene actually exists, the local applications should be anti-septic and moderately stimulant. For the first stage, I generally use nothing for the interior of the throat but the following:—

℞. Chlorate of Potassi,..... ʒj.
Hydrochloric Acid,..... 20gtts.
Tincture Belladonna, ... ʒj.
Water, ... ʒiij.

Mix. Give from half a teaspoonful to a dessert spoonful every

two hours, without further dilution. The application is made much more complete and easy by swallowing it, than by any process of swabing or sponging; while the introduction of the medicine into the system constitutes one of the best means for fulfilling the first indication in the general treatment. In the latter stages, the best local application is a dilute solution of chlorate of potassa and tincture of the chloride of iron. Occasionally, an ulcerated surface may be presented of that foul character that the direct application of a strong solution of sulphate of copper, or of iodine, or of per sulphate of iron, a few times would be beneficial. But in my own practice I have not found it necessary to apply anything with a swab or sponge to the throat of a diphtheritic patient during the last four years. Having thus given briefly my views concerning the nature of diphtheria and the general principles of treatment, it only remains to prescribe for the patient before us. The disease, with him, is yet in its first stage. He is somewhat anæmic and, as already mentioned, has been recently under treatment for sub-acute rheumatism. We shall direct the following prescriptions, namely:

℞. Chlorate of Potassa,..... ʒiss.
Hydrochloric Acid,..... 20 gtts.
Tincture of Belladonna,..... ʒiij.
Water,..... ʒiij.

Mix, and give a teaspoonful every two hours.

℞. Sulph. Quinine,.....16 grs.
Pulv. Doveri,.....40 "
Hydrag. chlind. mite,..... 8 "

Mix, divide into eight powders, and give one every six hours. At the same time we will keep the swollen lymphatic glands, behind the angles of the jaw, covered with a cloth wet in the following infusion, viz.:—

℞. Aconite leaves,..... ʒj.
Muriate of Ammonia,..... ʒss.

Mix; and pour on them one quart of boiling water, and use only slightly warm.

The first prescription, taken in small and frequently repeated

doses, constitutes the only local application necessary for the throat; while, as an internal medicine, it is efficient in counteracting the further degeneration of the blood. The second prescription will aid in improving the tonicity or vital affinity of the solids, gently promote the exeretions, and allay irritability. In about forty-eight hours we shall expect to find the white exudation on the tonsils mostly removed, and in its place some degree of ulceration. The saliva will then be more abundant and offensive; the general febrile symptoms less; the pain in swallowing less acute; but the patient complaining of much weakness. If no evacuation from the bowels occurs during that time, we shall give him a mild laxative, and substitute for the previous prescriptions the following:—

R. Tinct. Ferri Chloridi, ... ℥ss.
Potassa Chlor.,..... ℥ij.
Aqua,..... ℥iv.

Mix, and give a teaspoonful every three hours, and one dose of sulphate of quinine and Dover's powder each night and morning. If the glands of the neck remain swelled and hard, then apply, three times a day, the following liniment:—

R. Camphorated Soap Lin.,..... ℥ij.
Tinct. Iodine,..... ℥j. Mix.

Under this treatment we shall expect the patient to be fully convalescent from the diphtheric disease in from six to eight days.

Note.—In the progress of the above case, the diphtheritic exudations had disappeared by the third day, leaving only slight ulcerations: and by the seventh day, the patient was quite well, except a little swelling of the glands behind the angle of the jaw, on the right side, and some general debility.

Book Notices.

Medical Communications, with the Proceedings of the Seventy-first Annual Convention of the Connecticut Medical Society, held at Rockville, May 27th and 28th, 1863.

The present pamphlet completes volume I. of the new series, and contains the following brief but interesting papers:—

The Dignity and Grandeur of the Medical Profession; by Josiah G. Beckwith, M.D. Logic applied to Medical Science; by James C. Jackson, M.D. Vindication of Army Surgeons; by Ashbel Woodward, M.D. Calomel in Scarlatina; by Ebenezer K. Hunt, M.D. Physiology of the Chrystalline Lens, or Adjustment of the Eye to Distinct Vision at Different Distances; by Moses C. White, M.D. Sanitary Report of Hartford County; by Lucien S. Wilcox, M.D. Report of an Anomalous Surgical Case; by M. C. White, M.D. Biographical Sketch of the late Luther Ticknor, M.D.; by J. G. Beckwith, M.D. Biographical Sketch of the late Jehiel Williams, M.D.; by J. G. Beckwith, M.D.

The first article mentioned, being the Annual Address, by Dr. Beckwith, contains a condensed but very interesting resumé of medical history, and presents the high moral and scientific objects of our profession in very chaste and eloquent language.

The following, which constitutes the closing paragraphs of the address, is worthy of a perusal once a week throughout the year:—

"In contrast with this desperate progress of the age, our profession presents a noble contrast. Our progress has been steady and gradual; in the grand accumulation of its literature, in the higher standard of its attainments, it cautiously advances through long and intelligent processes of transition.

"Human life, although protected by human and divine laws, can only be committed with safety into the hands of a profession composed of men of high intelligence, of extensive learning. We observe in the history we have given of ancient medicine that one important fact stands forth prominently,—that all the great lights in the profession were men nurtured in the schools and educated in the colleges and universities of the day. Hence

the researches and discoveries made by them, of which we receive the benefit. With learning, must be combined strong common sense, a retentive memory, and sound discriminating judgment. He must be impressed that he has an important work to accomplish, requiring intense labor, study, and observation to make it useful to the world. He must be a man of large brains and broad sympathies,—broad enough to embrace the whole human family. The body must be educated as well as the mind; he should be strong for toil, and capable of enduring the inspiration of the mind. Such men are not usually fanatical, but useful and practical. They do not originate narrow systems and dreamy speculations, but substantial improvements and real reforms, based upon scientific research. The physician of this age must be eminently practical as well as liberal in his views. He must be a sort of balance-wheel to regulate the social system. He must be a patient man in the best sense of the word, a *gentleman*, kind, courteous, obliging, modest, generous, and genial; conceding, forbearing, holding fast and loving all things good; not stubborn, but maintaining a manly independence. Such a man possesses the elements of moral greatness, and will exert a healthy influence over these stormy and perilous times. He will be useful to the profession and to the world, inspiring confidence and nurturing hope, evolving light out of darkness and dispelling the gloom which prevades the chamber of death with the celestial rays which radiate from the great centre of light and happiness. His faith will be strong from intelligent research in a system of medical practice which has a literature and history of which the world may be justly proud, being the observations of more than three thousand years, reviewed, corrected, and tested by the experience of men of the greatest learning in the profession, men of profound research, and the discoveries in science and the arts during this whole period of time, of all the scientific men who belong to our brotherhood. And the march of improvement must still continue to be upward and onward. Constant contributions are being made to its literary wealth from the scientific researches of its hundred colleges and universities on both the continents, and by the observations of the thousands engaged in the practical duties of the profession. Higher standards of excellence and greater perfection in all the departments of medicine will yet be reached. These considerations will encourage every member of this venerable Society to do his whole duty in that noble cause to which he has dedicated himself during his brief day of labor; and in the consummation of this material world.

> "'When the cloud-capped towers, the gorgeous palaces
> Nay, the great globe itself shall be dissolved,
> And like the baseless fabric of a vision,
> Leave not a wreck behind.'"

We shall survive this wreck of matter and this crash of worlds. But the labors of our profession will have terminated with the annihilation of disease and death, and man's restoration to Paradise. The profession will then rest from their labors and enter upon the reward of enduring faithfulness to suffering humanity."

Mortality of Philadelphia for 1862. Report on Meteorology and Epidemics. Read before the College of Physicians of Philadelphia, Feb. 4th, 1863. By Wilson Jewell, M.D., President of the Medical Society of Pennsylvania, &c., &c.

This is a very interesting and valuable statistical paper of forty printed pages, by one who cultivates zealously and successfully the field of hygiene. A similar report should be published annually in relation to every city and county in the whole country.

Gastrotomy. Large abdominal uterine tumor extirpated by John O Reilly, M.D., F.R.C.S.I.

This is a brief but interesting report of a case of "fatty-fibro-cellular" tumor, weighing over *thirty* pounds, originating in the lower part of the abdomen. The patient lived nine days after the extirpation.

Lindsay & Blakiston's Physician's Visiting List, Diary, and Book of Engagements. Thirteenth year of its publication.

The volume of this very convenient, we might say, almost indispensable, book, for 1864, is now ready, and offered to the profession at the following prices:—

For	25	patients, weekly,	plain,.....	$ 63
"	25	do. do.	tucks,.....	1.00
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An *interleaved* edition is also published, for the use of such physicians as compound and furnish their own medicines to

their patients: and sold at a small advance on the above prices.

Catalogue of Medical, Surgical, Dental, and Scientific Books. Published and for sale by Lindsay & Blakiston, No. 25 South Sixth Street, Philadelphia.

This is a full catalogue of valuable medical and scientific books, with the publishers' prices attached. Those wishing to add to their libraries would do well to consult this catalogue.

The People's Dental Journal. Edited by W. W. Allport, D.D.S., and S. T. Creighton. Quarterly; price 50 cents per annum

The July number of this journal is before us, filled with useful matter for all who are interested in the proper care and preservation of the teeth: and this should include the entire community.

Selections.

CALOMEL AND TARTAR EMETIC IN THE ARMY.

Reprinted from the "American Medical Times."

To the Editor of the American Medical Times:

Sir:—Participating in that national sensibility which causes Americans to shrink from the touch of anything that may tarnish our national escutcheon, I was wounded by the circular of the Surgeon-General, dated May 4, 1863, which directed calomel and tartar emetic to be "struck" from the Medical Supply-Table of the army; and this the more deeply, because, from the official eminence of its source, it might be regarded on the other hemisphere as a proof of our professional retrogression. When contemplated from another point of view, whence it may be looked at as an evidence of our individual and national imbecility, as shown in the readiness with which we bend to every breeze of fanaticism, whether freighted with medical or political heresy, it is then sufficiently humiliating, and should be met with a rebuke from every conservative member of the profession.

The efforts of the *American Medical Times* to justify this

act, and to sustain and sanctify this error by its influence over its readers, have induced me to make this reply, not more to the circular than to the remarks of its editor in vindication of it.

I can find excuses for the action of this officer in the fact that he has seen but little of military service, and knows but little from personal observation of the diseases of soldiers; and also in the influence imputed to the National Sanitary Commission over the Chief of the Medical Bureau, to the head of which commission, he being clothed with a sacredotal pallium, we may, perhaps, justly impute a full share in the introduction of this species of medical fanaticism into the army of the United States.

For the gentleman who made a speech in defence of the circular before the American Medical Association, at Chicago, an apology may be framed on the supposition that it was for his interest to do so. The official relation of the parties renders such a supposition quite probable, and would, in other courts, impeach his testimony.

Whilst in my own mind I can satisfactorily account for the action of the Surgeon-General, and apologize for the indiscretion of his friend in the Medical Association, I am entirely at a loss for an explanation of the course pursued by the editor of the *American Medical Times*, in bringing the influence of a journal heretofore aiming to be the exponent of the medical opinion of the country to the defence of an act offensive to that profession and insulting to the medical staff of the army. One reason given by the Surgeon-General for the erasure of calomel and tartar emetic from the army medical Supply-Table, viz., that it was done in consequence of the teachings of "modern pathology," may deceive the readers of "Physiological Essays," but cannot mislead the students of historic medicine, who know how much therapeutics are indebted to empiricism, in its ancient signification, for the introduction of many important articles into the *materia medica* prior to the time of Galen, and who are also aware that the usages of that sect who tested the utility of remedies by experimentation still furnish the means by which judgments are formed of their claims to a position in our works on therapeutics.

The other reason, judging from its position, the first in importance in the estimation of the Surgeon-General, rests upon reports of the Sanitary Inspectors, who have assumed that certain forms of humid gangrene seen among the troops in the United States service are the effects of the administration of

mercury; and from thence the conclusion is arrived at, that the evils consequent upon its use more than counterbalance the good to be attained by its further toleration as a remedy, wherefore it is "struck" from the Supply-Table of the medical department of the army. That neither of the parties advocating the enforcement of the order excluding calomel from the army hospitals should have uttered a doubt as to the nature or the cause of the gangrene alluded to, is a painfully significant fact, showing either ignorance of the medical history of the country or a disposition to stifle its teaching.

If the facts assumed by the Surgeon-General to be true are not to be called in question, they only prove what all right-minded people admit, the predominance of evil in this world everywhere. All intelligent members of the medical profession know that the mischiefs done in the name of medicine outweigh the good it has accomplished. And what we admit to be true of medicine, we believe to be also true of law and divinity; but no sane person would on that account for one moment think that doctors, lawyers, and clergymen, should be expelled from civil society, any more than intelligent practical physicians would advocate the expunction of the name of a medicinal agent of recognized utility from the supply-table of a hospital, because it had been converted, in the hands of ignorance, into an instrument of destruction.

A very important question, pertinent to this discussion, seems not to have been asked, but if so, has not been answered; and that is,—Have the cases of gangrene, reported to the Medical Bureau, been caused by the use of mercury, or the insalubrity of the season, or of the particular locality where they have occurred!

More than thirty years ago, whilst on duty at a military outpost, I had opportunities of seeing cases of humid gangrene, such as have been described under the names of gangrenous erosion of the cheeks, gangrenopsis, and by that acutest of observers, the late Dr. Parrish, of Philadelphia, as a "disease resembling the effects of mercury." This disease was recognized as the product of malaria, and was especially familiar to the physicians residing at Natchez, on the Mississippi. Cases of this kind occurred in 1836 and 1839 as far north as Detroit: since when, owing to a notable change in the diathesis of epidemic disease, none have been seen, of which I have any knowledge, north of the Ohio River. So far from having been caused by the misuse of calomel, it was most successfully treated by heroic doses of this ostracised article.

I think it now quite reasonable to suppose that the approach of a similar morbid cycle co-operating with the exposures of a hazardous service, may have brought back the long lost cases of gangrenous erosion of the cheek. One reason for such a belief is derived from the condition of the sick found in the hospitals at Evansville, Ind., Paducah, Ken., Mound City and Cairo, Ill., and Memphis, Tennessee, where I saw in February last, instead of the destructive marks of excessive mercurialization, what I considered evidences of too cautious a use of mercurials in the early stages of the diarrhœas associated with or dependent upon hepatic torpor.

Yours, etc., Z. P.

Detroit, July, 1863.

THE TREATMENT OF EPILEPSY BY BELLADONNA.

By Dr. J. S. RAMSKILL, Assistant-Physician to the London Hospital, and Physician to the Hospital for Epilepsy and Paralysis.

Concerning the treatment by, and action of, belladonna in epilepsy, I will give you, in a short compass, the results of my experience in its use. First, you must not always, nor even usually, look for immediate and palpable beneficial results. The number of fits at first may not lessen in equal times; very frequently, the reverse obtains; and you may expect, for three or four weeks after commencing it, even in the most appropriate cases, a complaint that the patient gets worse; but after six or eight weeks, if any amelioration occur, it will be decided and progressive. At first the dose should be very small, and gradually augmented until the pupil shows signs of its action, and the patient complains of both alteration in sight and dryness of throat. Having obtained this result, and maintained it for some weeks, the dose may be gradually diminished; but its effects on the eye and throat are not to be so diminished as to become imperceptable to the patient, but only so far lessened as to cease causing absolute discomfort. The other toxic effects of belladonna are wholly uncalled for. Patients vary greatly, both as to susceptibility in the action of the drug, and in other respects. The annoyance as to dry throat and disturbed vision, which, at the expiration of a month, may be said to be unendurable, will now and then cease, the dose being the same, or even slightly increased; but I may remark, these cases always improve most rapidly. I prefer to give the drug in an eighth of a grain dose three times, or only twice, daily, for a week; then

a quarter of a grain for fourteen days; a third for the next fourteen days, at which time its physiological action will in most cases be manifest. I think it wise to halt at this dose for two months or three months, slightly increasing the dose if the patient shows diminished susceptibility to its influence, decreasing it if the reverse happens, and then gradually dropping it to the quantity first administered. I have given as much as four grains for a dose, but very rarely. I think it imperative to say, that I have never been able to give in epilipsy the large doses which Dr. Fuller has succeeded in administering in other diseases of a convulsive character. In this remark I am supported by the authority of my colleague, Dr. Brown-Séquard, who has arrived at the same conclusion. One objection to the use of belladonna, when you cannot see your patient at regular intervals, arises from its uncertainty of strength and corresponding difference of action. To those who wish to use a preparation of uniform strength, having similar, and, in some cases, improved properties of belladonna, the salts of atropia are now easily procurable. The best of these is the valerianate of atropia; the commencing dose a-hundred-and-twentieth of a grain. Hitherto, I have preferred belladonna, having had a strong desire to find what it could and, if possible, what it could not accomplish in the treatment of epilepsy. It is right to say, there are different methods of administering belladonna. Trousseau gives a centigramme of the extract and an equal quantity of the powder of belladonna for the first month, in the evening of each day. He gives it at this time because of the frequent nocturnal character of epilepsy, and partly because of the disagreeable effect on the sight and throat during its early administration. During the second month, he gives two such pills at the same time, and during the third month, three pills. If, at the end of six or nine months, the frequency of the fits is decreased, he increases the dose. He asserts that, of 120 patients, he has cured twenty. A most important question now arises,—Do we know anything of the nature of the action of belladonna beyond the empirical results obtained in treatment? If a drop of solution of belladonna or atropine be dropped on the foot of a frog properly prepared, and fixed on the field of a microscope, the bloodvessels will be seen to contract, and they will remain in this condition for a considerable time. For comparing the action of opium, a solution of the latter, similarly prepared, was applied to another part, and the vessels were immediately dilated. Now, belladonna, internally administered in medicinal doses, causes, first, dilitation of the pupil, with dimness of

vision; secondly, dryness of throat and difficulty of swallowing; thirdly, increased tone of involuntary muscle; fourthly, it relaxes the bowels, and cures incontinence of urine, arising from weak sphincter vesicæ. As dilatation of pupil is one of the earliest phenomena, let us see if we can account for it. There are two sets of fibres in the iris. It is well known that the sympathetic is the motor nerve of the external longitudinal fibres of the iris, which radiate from the centre to the circumference. The branch of nerves supplying these fibres comes from the cervical ganglia of the sympathetic. Excitation of this nerve, from any cause, will cause a contraction of these longitudinal fibres, and a corresponding dilitation of pupil. There is also a circular set of fibres immediately surrounding the margin of the pupil. This set is under cerebral control; that is to say, its motor supply comes from a branch of the third nerve. Any irritation in the brain or along the trunk of the nerve, or an excitation by light on the retina acting in a reflex manner, will stimulate this branch of the third to action, and cause contraction of pupil.

But we may have dilitation of pupil without increased action of the sympathetic: it may be acting normally, then the third nerve must be supposed dificient in power. This is a common result observed in compression of brain. On the other hand, contraction of pupil may be present without abnormal activity of the third being necessarily supposed. This condition is invariably produced by section of the sympathetic in the neck. Dilitation of pupil may, in short, depend upon the action of the sympathetic being in excess, or in diminished power of the cerebral nerve. In epilepsy it is easy to observe, from collateral symptoms and the general condition of the patient, that dilated pupil, when it exists, which is much rarer than a normal condition, is usually caused by an active sympathetic overpowering the third nerve. The same dilitation may be observed in most convalescents after acute disease, and in most affections involving extreme debility; but here it would be more correct to say, that the dilitation was rather the effect of a compressed condition of the third cerebral nerve accompanying a normal sympathetic, than of an active sympathetic accompanying a normal condition of the cerebral nerve. I have said the branches of the sympathetic nerve which go to the iris, come from the cervical sympathetic. Dr. A. Walker, with Professor Budge, have made experiments, which seem to prove that the nerve fibres of the cervical sympathetic, which go to the iris, originate from the spinal cord between the sixth cervical and the fourth dorsal

vertebræ. Dr. Brown-Séquard has ascertained that the origins of the fibres of the sympathetic going to the iris are still more extended. I have mentioned that division of the cervical sympathetic allows the uncontrolled third cerebral nerve to contract the iris. Dr. Brown-Séquard has shown that a section of the spinal cord, as high as the level of the fifth cervical, or as low as the ninth or tenth dorsal vertebræ, affects the iris in the same manner, but in a less degree than section of the sympathetic. On the other hand, Schiff has shown that some of the fibres animating the iris ascend the cervical part of the spinal cord, and most probably go up to the medulla. I may also say here, that the sympathetic is the motor nerve of the bloodvessels, supplying various parts of the head. It is especially interesting to know the origin of these vaso-motor nerves, especially in relation to loss of consciousness, the initial movement of a fit of epilepsy, and also in regard to the pathology of the *petit-mal*, as well as the great light such knowledge would throw on the action of belladonna in epilepsy. Dr. Brown-Séquard discovered some years ago that the motor nerves of the bloodvessels going to various parts of the head, come out chiefly from the spinal cord by the roots of the last cervical and first and second dorsal nerves. He thinks, however, their real place of origin to be partly the spinal cord, partly the higher portions of the encephalon, but chiefly the medulla oblongata and the neighboring parts of the encephalon. In the case of R. P., it will be remembered the ferrum candens was applied to each side of the spine, opposite the last cervical and first dorsal vertebræ. The reason will now be apparent. The vaso-motor nerve fibres are able to contract the bloodvessels directly, when excited. We hope, by frequently cauterizing the tissues opposite the seat of exit of these nerves from the spine, to effect some change in the nutrition of the parts to which these nerves are distributed. We can now understand the nature of the action of belladonna in producing dilation of the pupil: and from its effect on the iris, we can deduce a strong probability of the nature of its action in epilepsy. It is a stimulant to the sympathetic, the motor-nerve of the bloodvessels, and it is only on this supposition we can account for the other physiological effects of the drug.

I would add, although experience shows belladonna is one of the most powerful contractors of the bloodvessels of the spinal cord and its membranes, it has a comparatively feeble action on those of the brain. I speak of its administration in medicine, —not in poisonous or fatal doses. Hence arises its extraordi-

nary adaptability in epilepsy, where we have dilatations of vessels or turgescence in the medulla and its neighborhood; of its still more marked efficacy in inflammation, and congestion of the spinal cord and its membranes; as well as of its comparative inutility (administered alone,) in those cases of morbid activity of brain, connected, as we think, with more or less congestion of grey matter, in some forms of incipient insanity, associated with sleeplessness and suicidal tendency, as well as in some other cerebral diseases.—*Medical Times and Gazette.*

ON SCARLET FEVER COMPLICATED WITH RHEUMATIC AND CARDIAC AFFECTIONS.

[It seems now pretty well decided that cases of scarlet fever occur, complicated with rheumatic affections of the joints, and even with well marked pericardiac and endocardiac inflammation. Dr. Richardson, in his Clinical Essays, article "Scarlet Fever," p. 85, says:]

That he once attended four children in one family for scarlet fever, and that in two of the cases well-marked symptoms of rheumatic fever set in on the second day of the eruption. In one, the endocardial membrane became affected. He writes:—"I could not make out satisfactorily any proof of hereditary taint, as accounting for the rheumatic complication; but there it was, and there was the fact, in spite of any hypothesis to the contrary, that two diseases may exist in the same body at the same time."

[The connexion of affections of the pericardium and endocardium with scarlet fever has been long recognized, but does not seem to be considered as a frequent cause of disease of the heart. It is not mentioned by such standard authors as Walshe and Markham. Dr. West, in his work on "Diseases of Children," writes:]

"In two cases of pericarditis, in three of acute and one of chronic endocarditis, or in six out of thirty-nine instances, the disease of the heart was traced to an attack of scarlet fever. The cardiac symptoms did not manifest themselves in the acute stage of the affection, but during the progress of desquamation."

In reference to the connexion of the heart affection in scarlet fever, when complicated with rheumatism, the following quotation from Dr. Watson will be interesting:—"I have several times, when the rash of scarlet fever was disappearing, known pain and swelling of the larger joints to supervene, simulating

closely the local phenomena of sub-acute rheumatism; and I have noticed that the painful joints were eased and benefited by friction,—a circumstance which may help to distinguish this articular affection from true rhuematism. Another distinctive circumstance seemed to be that, although all these patients were children, the heart in no instance became implicated in connexion with the tumid joints. Upon this point, however, my own experience may have been fallacious. Dr. Scott Alison has recently invited attention to the subject, in an interesting essay on 'Pericarditis a Complication and Sequela of Scarlatina.' Accepting his facts, I should ascribe the articular affection and the cardiac affection, whether they occurred together or separately, to one and the same cause, viz.: to the retention in the blood of a poisonous excrement, by the default of the principal emunctories, and especially the kidney."

[In one case which occurred to Dr. Budd, at King's College Hospital, the report of the autopsy relates that there was "some recent lymph on the surface of the heart, and a few ounces of serous fluid in the pericardium." In this case no abnormal sound was heard before death, though the action of the heart was irregular and feeble. We do not consider this a common complication of scarlet fever, yet that it does occur we ourselves can testify.]—*Medical Times and Gazette.*

Editorial.

Medical Colleges in Chicago.—The two regular medical colleges in this city have issued their respective announcements for the coming annual courses of instruction.

That of the Rush Medical College, indicates no important alterations from the preceding year, either in the course of instruction or in the members of the Faculty. The term will commence on the 7th of October, and continue, as usual, *sixteen weeks.* For clinical instruction, the Faculty seems to rely almost wholly on the college dispensary, or rather on a simple college clinic twice a week. The announcement alludes to an arrangement for admitting the students into the Marine Hospital, but it does not state how often, or by whom they are to be instructed

when there. A few weeks since, we saw the Annual Catalogue and Announcement of the University of St. Mary's-of-the-Lake, a well-known catholic college in this city, in which the Faculty of Rush Medical College are represented as the *Medical Department* of that University. The same claim to a Medical Department is contained in the advertisement of that University, in the daily papers of this city. In the Annual Announcement of the Rush Medical College, now before us, there is no allusion to the subject. Has the Rush Medical College and the Catholic University really become united, or is the statement in the circular of the last-named institution a mere advertising dodge on the part of the Rush College? The same circular of the University of St. Mary's, stated that candidates for the degree of M.D., in that institution, must have studied medicine, *at least, one year!* Yes, *one* whole year of study to make a "Doctor of Medicine!" The year is, doubtless, intended to include *sixteen weeks* of lectures in the, so called, Medical Department. Verily, this affords a *short*, if not a royal road to medical honors, or, more properly, *titles*. A full explanation of the condition and prospects of the Chicago Medical College, (the Medical Department of Lind University,) we give in the July number of this Journal, and hence will not repeat it here.

The new college building, there described, is rapidly approaching completion. The Mercy Hospital has become fully installed in its new and pleasant quarters, and its wards are more full than they have been at any previous time during the last two years. They will afford an ample field for true clinical instruction, in reference to all the more important diseases met with in medical and surgical practice. The students of the Chicago Medical College, in addition to the usual college clinics twice a week, will receive regular clinical instruction in the wards of the Hospital, four mornings in the week, throughout the whole college term. From the Announcement of the Rush Medical College, we learn that the General Introductory Lecture, at the opening of their next Annual Course, will be delivered by E. Ingalls, M.D., Professor of Materia Medica and Medical Jurisprudence, on the evening of the 7th of October.

The General Introductory Lecture, at the opening of the next term in the Chicago Medical College, will be delivered by N. S. Davis, M.D., Professor of Practical Medicine, &c., on the evening of October 12th.

Army Surgeons.—We are informed that all vacancies in the Medical Department of the Army, so far as relates to the Illinois Volunteers, have been filled; and, consequently, that there is no necessity for further applications for examination and appointments at present.

TO THE MEDICAL PROFESSION OF ILLINOIS.

The undersigned was, at the last meeting of the Illinois State Medical Society, appointed as Chairman of the Committee on Drugs and Medicines.

All members of the Medical Profession in the State of Illinois, are hereby requested to report the result of their observations in regard to any new remedies, or new application of those long known, to the Chairman, at Quincy, Dr. R. G. Laughlin, of Hayworth, or Dr. F. R. Payne, of Marshall.

Respectfully, F. K. BAILEY.

Chairman Committee on Drugs and Medicines.

Quincy General Hospital, August, 1863.

Illinois State Medical Society.—The Special Committee on *Diseases of the Eye*, appointed at the last meeting of this Society, earnestly requests all members of the Association, and of the profession generally, to aid in accomplishing the objects for which the Committee was appointed.

Although the Committee has previously reported upon the causes of conjunctival inflammations as they prevail at the West, it is desirable to collect more facts in reference to the causes and prevention of this disease.

The Committee would suggest, that all members, who have observed epidemics of conjunctivitis, contribute such facts as may demonstrate to what extent the disease is influenced by dryness of the atmosphere, season of the year, dust from trees

and plants, want of care as regards food and exposure, malaria, etc.

The history of interesting cases of any form of ophthalmic disease is urgently solicited.

It is important that all communications be forwarded to the address of the subscriber, previous to April 1, 1864.

E. L. HOLMES,
Box 2175. *Committee on Diseases of the Eye.*

Artificial Petrifaction of Animal Tissue.—In one of his interesting European letters to the *American Medical Times*, descriptive of the principal hospital and other medical institutions of Florence, Prof. Charles A. Lee thus notices a very important discovery, a knowledge of which appears to have been lost through the cold indifference to new ideas and narrow prejudice against progress which so generally prevails, to the great disadvantage of science and the injury of those noble pioneers of truth who promote its advancement.

"In the museum of this school, also, are the celebrated preparations of Legato, who died about 30 years ago. This celebrated anatomist discovered a mode of changing all animal tissues into stone, without changing their form or color in the slightest degree, and even preserving the natural flexibility of the ligiments, tendons, and joints, etc. Here is a tablet, perhaps a foot and a-half square, inlaid with splendid mosaics in ornamental figures, consisting entirely of the various textures of the body converted into stone, hard and smooth as polished marble. For example, a portion of liver, lung, spleen, skin, kidney, penis, uterus, cartilage, muscle, brain, nerve, spinal cord, membrane, eye, bone, etc., etc., all retaining their natural color, and readily recognized by the anatomist. This celebrated genius did not meet with that encouragement which he expected and deserved for his most important discovery, the Government entirely ignoring his valuable services, and the secret accordingly perished with him. Among the animals converted into stone I noticed the rat, cat, spider, fishes, etc, all looking perfectly natural."—*Druggists' Circular.*

Garibaldi Probe.—Dr. E. L. Ducr, of the Sixteenth U. S. General Hospital at Philadilphia, proposes a very simple substitute for the porcelain-headed probe of M. Nelaton, known by surgeons as the *Garibaldi probe.* He suggests a white or opalescent glass rod, having successfully made use of this for

several months. He says, in a note to the *Philadelphia Reporter*, "A rod of the requisite thickness and color may be simply and readily prepared by first rounding the end a little, by holding it in the flame of a spirit-lamp, and then rasping it off with emory paper."—*Cincinnati Lancet and Observer.*

Michigan State University.—At the recent annual meeting of the trustees of this institution, Dr. Tappan was removed from the Presidency and the Professorship of Sacred Rhetoric, and Dr. E. O. Haven elected to fill the vacancy. The election was made *viva voce* and unanimous. It is understood that hereby is removed the noxious influence which has year after year persisted in the effort to foist a chair of Homœopathy on the medical department of this University.—*Cincinnati Lancet and Observer.*

Large Scrotal Tumor.—Dr. Cleveland, of Malabar, has reported the removal of a large scrotal tumor, from a native of the Laccadive Islands, the weight being 78 pounds. The man was a strumose subject, and died on the ninth day after the operation, from an attack of diarrhœa.

R. R. BALL,
GENERAL DRUGGIST,
119 South Clark Street, Chicago, Illinois.

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THE

CHICAGO MEDICAL EXAMINER.

N. S. DAVIS, M.D., Editor.

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Original Contributions.

ARTICLE XXII.

IMPROVED METHODS OF TREATMENT IN JOINT AND SPINAL DISEASES.

By E. ANDREWS, M.D., Prof. of Surgery in the Chicago Medical College.

Very important improvements have of late been made in the treatment of diseases of the spine, the hip, the knee, and the ankle. So rapid and brilliant has been the advance in this department that, among the best surgeons, the treatment of joint and spinal diseases is already revolutionized, and vast numbers of cases are now easily curable, which formerly defied our utmost skill. It is to be regretted, however, that very many of these improvements are still unknown to the great mass of our profession. Even some of our most recent text-books are behind the times, and repeat the advice of ten years ago, in utter unconsciousness of any recent progress having been made.

As the information has never been given to the public in any compact and comprehensive form, there are many practitioners, who, though aware of the existence of such improvements, have not been able to obtain sufficient knowledge of their details to apply them in the treatment of their patients. The mechanical difficulties to be overcome are considerable, for the apparatus

cannot be purchased ready made, but must almost always be constructed by measure to fit the patient, making, of course, a constant tax upon the ingenuity of the surgeon; besides, the medical man, out of the cities, often has no mechanic at his command, with the skill required to execute his plans.

For these reasons, it happens that the whole country is sprinkled with cases of neglected deformity and articular disease, which have never been taken seriously under treatment, and many of which are susceptible of complete cure.

The object of the present article is, to remedy this deficiency, by giving a carefully condensed and illustrated synopsis of the best modes of treatment now known. I hope to make the essential points so clear that any surgeon, who has ingenuity and access to suitable mechanics, will be able to devise and have constructed everything which the treatment requires; or if he does not wish to enter upon this branch of practice, he will, at least, be made aware of the numerous cases which are now proved to be curable, and can direct the patient to some one who will take him efficiently in charge.

It being no part of my object to make a special parade of my own improvements in this branch of surgery, nor to settle the disputed authorship of those made by others, I may be excused from all controversial remarks. Suffice it to say, that the advances which have been made are the joint offspring of a number of different minds on both sides of the Atlantic. Probably, Dr. Henry Davis, of New York, is entitled to more credit than any other one man, for the impulse which has been given to this progress.

The diseases to which the late improvements are mainly applicable are the following:—

Curvature of the Spine, (Spinal Disease,)
Hip Disease, (Morbus Coxarius,)
Knee-Disease, (Inflammation and Caries,)
Club-Foot, (Talipes.)

Our brief space forbids any more extended remarks upon the pathology of these diseases than will suffice to show the principle on which the treatment rests.

SPINAL DISEASE.

Spinal distortions result from inflammation, caries, rickets, chronic contraction of muscles, paralysis, wrong habits of position in study or work, and unequal development of the muscles on the two sides by the exclusive use of one set, as, for instance, in sewing girls. Inflammation and caries usually produce the backward distortion; and the angular variety, while the remaining causes result in the lateral deformity and the curved forms. Lateral curvature, is almost always double, like the letter S.

Constitutional Treatment.—The most important modern improvements are of a local and mechanical character, but the correction of the general health must not on that account be overlooked. Thus, if paralysis, rickets, scrofula, or any other disturbance is present, the well-known standard remedies are to be used. Some special remarks, however, are required respecting the correction of the diathesis in inflammatory cases. Inflammatory spinal disease may be divided into two stages,—first, that of simple inflammation; and the second, that of suppuration and caries. If the patient is of a very plastic diathesis, suppuration and caries occur with difficulty, if at all, and an excellent opportunity is afforded to effect a perfect cure. If, on the contrary, the diathesis at any time becomes aplastic, the inflamed vertebræ may become carious at once, after which, the life of the patient is in extreme peril. It is of the utmost consequence, therefore, to maintain a uniformly plastic diathesis by proper constitutional treatment.

For the preservation or restoration of plasticity there is no medicine practically equal to the perchloride of iron. This should be given in doses of 20 to 40 drops of the muriated tincture, for an adult, every three hours. Quinine and mineral acids are also extremely valuable.

The diet should consist largely of meat, and be in all respects rich and nutritious. The patient should also spend much time out of doors, and at night sleep where every breath inhaled will be of perfectly pure and fresh air. By acting thoroughly upon these principles the diathesis can usually be rendered and kept

perfectly plastic, and, if this is accomplished, caries will rarely supervene.

In all inflammatory affections of the joints, the pressure of the weight of the body upon the diseased articulation is a most exasperating and injurious element in the disease. It is for this reason that the lower half of the spine, and the joints of the lower extremities far more frequently run on to destructive suppuration and caries than the upper. One of the most important discoveries ever made, therefore, is the recent one, that in treating diseases of this class, *the weight of the body must be taken off, and the tension of the muscles must be overcome, so that all pressure shall be removed from the affected articulation.* The

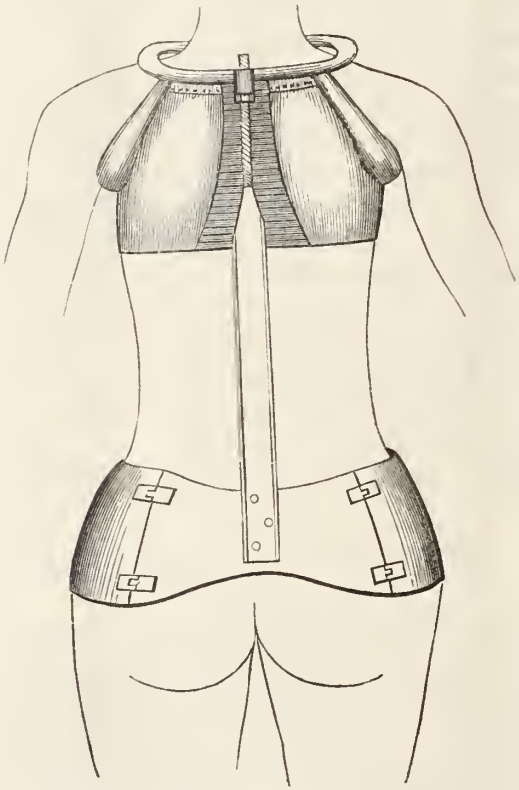

Fig. 1. Hip Armor and Adhesive-Strap Jacket.

mechanical difficulties in the way of accomplishing this end, in diseases of the spine, have been very great, but by patient ingenuity they are now, in a great measure, overcome.

If the disease is inflammatory and is not higher than the sixth dorsal vertebræ, I make use of what, for want of a better name, I may call the hip armor and adhesive-strap jaeket, which is construeted in the following manner:—(See Fig. 1.) First, take a eomplete east of the patient's hips in plaster of Paris, from the small of the waist downward to two inches below the *trochanter major.* Using the east as a pattern, have a brass armor hammered to fit it, making it wide on each side, somewhat narrower behind, and still more narrower in front, so that the thighs may not press against the lower edge when flexed.

This armor opens by hinges situated a little external to the saero-iliae junetions and loeks in front on the linea alba. It is, therefore, composed of three piees; and, when clasped upon the patient, will be found to fit the hips nicely, and to bear any amount of downward pressure, without eausing pain. It should be lined with eotton flannel. A steel rod arises from the centre of the baek of the armor and another from the front, each coming well up to the height of the shoulders. Their upper extremities are eut for eight ineches into a serew, and carry an octagonal nut. A short and strong jacket must be made to fit the ehest, elosing snugly with buttons under each axilla, and fastened at the top to the eireumferenee of a steel ring whieh surrounds the neck. This ring has sockets before and behind, whieh slide down upon the screws to a distance regulated by the nuts. The eentre of the jacket, at the back and front, is made of "elastie," (similar to the "gores" of Congress gaiters,) to keep the garment always snugly drawn against the skin, and, at the same time, to allow of the motions of the ribs in respiration. When this is finished and aseertained to fit firmly and closely, it is to be lined with adhesive-plaster throughout the inside, exeept where the elasties eome. The adhesive-plaster must be securely sewed on, especially at the upper border. Finally, a strip of elastic webbing, earrying a

pad covered with oiled silk, is to be attached on either side of the ring behind, passed under the axilla, and buckled to the ring again in front as tightly as may be found necessary.

If now the nuts on the two screws be turned upwards, the ring will be raised, and, by the tension upon the adhesive-plaster and upon the axillary band, the weight of the upper half of the body may be entirely taken off from the spinal column and borne by the steel rods directly upon the armor of the hips. The source of irritation being thus removed, the inflammation will, in many instances, subside spontaneously without any other treatment. At the same time, the spinal column is drawn straight, exactly as if it were a string. The adhesive-plaster should be renewed once in two weeks, and the skin under it thoroughly washed. The cost of the apparatus is about $25.

A simpler apparatus will accomplish the end desired in cases which are not inflammatory, because, in such instances it is not necessary to take off the weight of the trunk, but only to straighten it. Where a non-inflammatory curvature is lateral, which it usually is, I advise the instrument shown in Fig. 2. This consists of a wide band of strong drilling, fitted closely to the form of the hips, enclosing a large brass plate in the back and another in front. From each of these plates rises a flat steel rod to the heighth of the seventh cervical vertebræ behind, and of

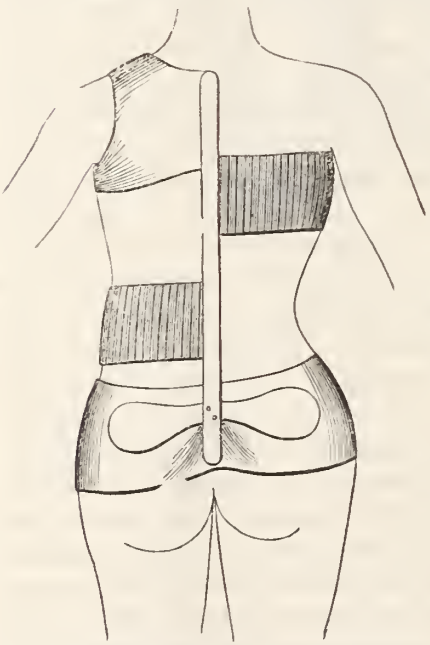

Fig. 2. Instrument for Double Lateral Curvature without inflammation.

the top of the sternum in front. A half jacket connects the summits of the two rods passing around the shoulder on the same side as the concavity of the upper curvature. A broad "elastic" passes around the opposite side lower down, so as to press firmly upon the convexity of the upper curve. On the opposite side from this, still lower down, passes a second elastic which presses upon the convexity of the lower curve. Both elastics should buckle to the front rod in such a way as to allow of strong tightening. This apparatus is extremely light, simple, and efficient. When desirable, the principle of Fig. 1 and Fig. 2 may be combined, by attaching the elastics to the rods of the former. The apparatus of Fig. 2 costs about $15.

When the distortion is backwards, an entirely different instrument is required. If inflammation still exists, apparatus No. 1 should be applied, but if that stage is past and the deformity alone is to be treated, it can be admirably managed by the principle represented in Fig. 3. It consists of a steel spring enclosing the hips, shaped like those of trusses and attached to a brass cuiriass in front, which distributes their pressure upon the lower half of the abdomen, and the front of the pelvis. From the back of the spring rise two strong elastic steel straps, set wide enough asunder to avoid pressing on the bony prominences of the deformity, and to make pressure upon the common mass of the *erector spinæ* muscles on either side. The top is surmounted by a pair of elastic shoulder-braces, by which the spine is drawn back to the steel supports and thus made straight.

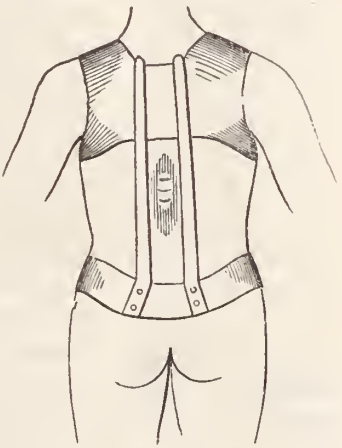

Fig. 3. Instrument for Backward Curvature.

Unfortunately, many of the patients with angular curvature are already fatally exhausted by caries before they see the surgeon, and cannot, in that state, tolerate the annoyance of any apparatus whatever; but, if seen in time, the above treat-

ment, either by Fig. 1 or Fig. 3, should be promptly applied. The opinion advanced by many writers, that the spinal column should be allowed to fall forward, so as to favor anchylosis, is delusive. The periosteum will produce new bone for anchylosis quite as well in the erect position as in the crooked, besides, the falling forward keeps up the pressure, extends the caries, and insures deformity.

If the deformity to be treated is in the neck or the upper fourth of the dorsum, the before-mentioned instruments will not answer the purpose, as they do not reach high enough. In such cases it is necessary to apply the extension power to the head. For this purpose, an excellent splint may be made on the plan shown in Fig. 4. In this case we require the hip armor as in Fig. 1. From the back of this rises a steel rod to the middle of the neck, the last ten inches being in the form of a tube. In this tube slides a screw to a depth regulated by the nut upon it. The top of the screw carries a brass head-piece, hammered to a concavity to fit accurately the whole occipital region as far forward as the ears. The hollow must be lined with some soft substance, and the head kept firmly in it by a band passing around the forehead. Extension is made by turning the nut so as to cause the screw and head-piece to rise. In this way, the cervical part of the spinal column is put on stretch, and any curvature not unusually obstinate will be gradually straightened. The cost of the instrument is about $20. In case of necessity, this head extension may be added to instrument No. 1, No. 2, or No. 3.

Fig. 4. Head Extension for High Curvatures.

In adopting this treatment, the surgeon must not expect to buy his instruments ready made, and order them put on with-

out trouble to himself. The ready made apparatus sometimes offered for sale for spinal disease always proves a miserable failure, owing to its total want of adaptation to the form of the patient.

The case should first be thoroughly investigated to ascertain what is needed. The form must then be carefully measured, and parts of it often copied in plaster of Paris, and the instrument constructed to fit under the explicit directions of the surgeon. When put on, it must not be at first screwed and buckled to the utmost tension expected to be attained, but worn lightly and easily until the skin and other parts become accustomed to its pressure. Then it may gradually be made to draw more and more until it accomplishes its purpose. Even old cases of deformity, of years standing, may thus be greatly improved and often entirely cured. The fact that the bodies of the vertebræ and the intervertebral cartilages have changed their form and become wedge-shaped, does not by any means condemn the patient to a lifelong deformity. The same agent, *pressure*, which, improperly applied, produced distortion, will, when correctly used, restore the original shape. Under the new influence, the thick sides of the bodies of the vertebræ receive the whole pressure, or, if extension is used, the shortened ligaments receive the whole tension; and, by a general law of the system, the corrected position at length becomes permanent. In some instances, the spinal column must be kept a little curved over for a time in the direction opposite to that of the deformity. The thicker borders of the vertebræ and cartilages will thus receive the entire pressure and be thinned by absorption, while the thinner sides, relieved from it, will grow thicker. In this way the forms may be quite restored.

In the same manner, the shortened muscles and ligaments of the concave side will stretch under the constant tension, and the longer ones of the opposite side contract under relaxation. The apparatus will, commonly, have to be worn from six months to two years; but after it is once well fitted, and the patient instructed in its use, the surgeon need not trouble himself by constantly watching the case. It will be better, however, for him to see it occasionally.

If circumstances permit, a system of special exercises should be adopted as an adjuvant to the other treatment. It is, however, very difficult to get your plans thoroughly carried out in this respect, unless you can have your patient an hour or two a day under the tuition and supervision of a trained assistant, or at least some resolute friend of the patient whom you have fully instructed in his duties. The limits of this essay will not permit a full description of all the movements, passive and active, which properly go to make a complete system of exercises for this disease; but a few principles may be stated, and the details must be left to the ingenuity of the practitioner:—

1st.—A few gymnastic appliances are required, such as cross-bars, cushioned posts, hand swings, etc., of sizes and forms adapted to the case. These may be erected at the patient's own house.

2d.—Examine the body of the patient critically, and determine, by experiments, what muscles would, if strengthened, tend to rectify the curvature. Such, for instance, as those along the convex sides of lateral curvatures.

3d.—Devise a system of exercises, occupying from half an hour to an hour and a-half, twice a day, which shall bring into action exclusively the muscles intended to be strengthened; but beware of mistakes, nothing is easier than for a surgeon, whose knowledge of anatomy is rusty, or his perception of mechanical relations dull, to make an erroneous plan which will bring into play the wrong set of muscles and increase the mischief.

A greatly increased development can, in time, be produced in the muscles put under training, which will powerfully assist the cure.

HIP DISEASE, (*Morbus Coxarius.*)

For the purposes of this article, hip-disease, like spinal inflammation, may be described as passing through two stages, viz.:—1st, inflammation; and, 2d, suppuration and caries. The brief intermediate stage of some authors is not, pathologically, separable from the first, in some instances, and the second in others. We observe in this, as in spinal disease, that many cases recover in the first stage without ever proceeding to caries.

The constitutional treatment for *morbus coxarius*, consists in the free employment of regimen, diet, and medicines adapted to increase the plasticity of the blood, exactly as was detailed above for spinal inflammation, bearing always in mind that *if plasticity is kept well up, caries will not occur.*

The local treatment consists, in the first stage, in the use of a suitable splint, by means of which the weight of the body and the tension of the muscles may be completely taken off from the inflamed joint. This must be accomplished by such means as will allow the patient to go about and preserve his health by exercise. The disastrous effect of the pressure and friction, produced by bearing the weight of the body upon the diseased joint, may be rendered very obvious by a few remarks. The synovial membrane, when inflamed, becomes roughened, yet upon this inflamed and rough surface the entire weight of the body presses, rubs, and grinds at every step. Of course, under such harsh usage no tissue could be expected to recover without serious mischief, and especially the exquisite machinery of a joint. The disease, therefore, being aggravated by the pressure and friction, grows daily worse, and seldom finds an interval of repose sufficiently long to permit a recovery. Hence, sooner or later, caries very commonly occurs, an abscess forms, and long and copious suppuration ensues, lasting for months and years, until the patient is exhausted and dies. In some cases, however, the endurance of the patient is so great that the carious portions of bone are actually worn to sand and washed away with the pus. In this way the head of the femur and the walls of the acetabulum may be removed, and spontaneous dislocation occur, after which, recovery takes place with a deformed hip. The part where the disease first commences is, naturally, where the pressure is greatest, viz.:—at the top of the acetabulum and

Fig. 5. Sectional View of a case of Hip-Disease.

the summit of the head of the femur. Fig. 5 is a sectional view of a case of hip-disease in a little girl 7 years of age, from whom I excised the head of the femur. The shaded portion represents a mass of necrosed fragments which had been originally parts of the wall of the acetabulum. The black spot above is a fistulous channel in the bone through which the pus made its escape. The head of the femur is seen roughened and worn to a stump by constant attrition against the dead fragments of bone. After the removal of the diseased bone, the patient recovered rapidly, and now walks on the limb with ease,—a ligamentous attachment of the femur to the pelvis supplying the place of the lost joint.

The local treatment of hip-disease, in the first or inflammatory stage, consists in the application of some suitable instrument, by which the weight of the body and the tension of the muscles can be entirely taken off from the joint, so that the inflamed surfaces no longer press and rub against each other. Dr. H. G. Davis, of New York, was the first to construct an efficient apparatus for this purpose, and with it he has accomplished many excellent cures. There are some defects, however, in the practical working of his instrument, which have led me to devise a modification, which, after much experience in these cases, I prefer. It is represented in Fig. 6, and consists of the following parts:—1st, an iron crutch-piece modelled accurately to fit the perineum and nates. The engraving conveys an erroneous idea about the shape of this part. The principal curve is lateral, so as to embrace half the circumference of the thigh at the level of the fold of the nates. The posterior extremity is broad and hollowed to fit the nates,

Fig 6.
Splint for Hip-Disease.

so that the patient, as it were, sits upon it. It is cushioned and covered with enamelled cloth or patent leather, to resist the moisture of the perspiration. The crutch piece thus made is supported upon the summit of a strong screw, twelve inches in length, upon which turn two octagonal nuts. The screw slides into a tube, and this again terminates at its lower extremity in a rod which runs down along the inner side of the leg to the ground, and, by a cross-piece, rivets firmly to the sole of a stout shoe. The top of the shoe carries a light buckle on either side for the purpose hereafter mentioned.

The instrument is applied to the patient as follows:—Place it on the inner side of the limb, in such a position that the crutch-piece will press upward against the perineum, the broad end being backwards. The concave edge will now embrace about half the circumference of the thigh, and the perineum and nates will rest easily in the hollow of the upper surface. Buckle the attached strap lightly around the outer side of the thigh. Next cut two adhesive-straps, each two feet in length, and three inches wide at the one end and one at the other; apply these on each side of the limb, broad end upwards, and confine them by winding spiral straps over them as in adhesive-strap extension for fractures. Place the foot in the shoe, and the lower ends of the adhesive-straps in the buckles at the top of it. Tighten the straps in the buckles until the foot rests firmly in the bottom of the shoe. Next extend the screw, by turning the nuts, until the crutch-piece rests firmly against the perineum, and until the patient, in walking, bears all his weight on the instrument and *none of it* on the hip-joint. This can be ascertained by seeing if the adhesive-straps are still tense when the weight of the body is thrown upon the instrument. The patient may then be allowed to walk about as much as he pleases, preserving his general health by exercise. He will not require any crutches. It should have been observed, that it is best to have two nuts upon the screw. When the lower one is set at the right length, it should be held firmly while the upper one is screwed strongly down against it. This is simply the common device of machinists to fix a nut in a stationary position.

The two will then stand immovable without working up or down. In the use of this instrument, the patient is soon conscious of great relief. Even little children discover in a few days that it greatly relieves their pain, and insist upon keeping it on. It should be worn nights as well as daytimes, except in the milder cases. From the hour of its application, the patient generally begins to improve, and by degrees is perfectly cured. He should wear the splint from six months to two years. The cost of the instrument is $15.

In cases where the thigh has been drawn up at a right angle with the body, by the contraction of the flexors, it is sometimes necessary to divide the tendons and bring down the limb before the splint can be usefully worn.

The second stage of hip-disease is that of caries. When this has occurred, a recovery by simple subsidence of inflammation is no longer possible. The dead bone must be extruded by nature or removed by the surgeon. Great fear was formerly felt of undertaking an operation for this purpose, and the books which condemn it are still standard works. There is, however, no part of the body whatever more benefited by the removal of carious bone than the hip-joint. The operation is not particularly dangerous, and has saved many lives. It is best performed by a single straight incision along the trochanter major, through which the head of the femur may be turned out and sawn off. If the ilium is carious, it must be freely and unhesitatingly trimmed with the gouge until all dead portions are removed.

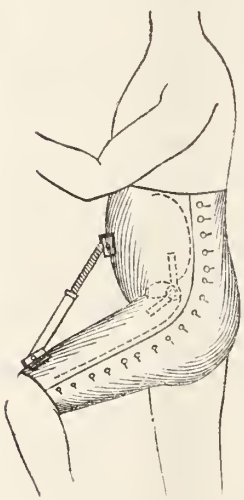

Fig. 7. Apparatus for Straightening Flexed Hips.

After the operation, as before, the splint must be worn to keep the limb from shortening, until the femur has had time to contract a ligamentous adhesion to the ilium.

We often meet old cases of hip-disease, in which the carious

bone has already been removed by exfoliation, and the ulcerations have healed up; or, perhaps, the inflammation has subsided without producing caries, but, owing to mismanagement during the convalescence, the thigh has become stiffened in the flexed condition, so that the foot cannot be brought down to the ground. In these cases, the hip-disease proper is already cured, and we have only to deal with the deformity, and if we succeed in rectifying that, so as to bring the foot to the ground, we shall give the patient a useful limb.

For this purpose, I employ the apparatus shown in Fig. 7. It consists of a pair of strong close-fitting drawers, made of double brown drilling, and extending from the top of the abdomen to the knee. Enclosed in this is a brass curiass fitted to the front of the abdomen and pelvis, and a brass armor covering the front half of the thigh. The top of the thigh-piece is solidly hinged to the lower edge of the curiass. From one piece to the other passes an extension-brace, which, when the screw is turned, slowly pushes down the thigh and corrects the deformity. A slight additional extension should be made every day until the object is accomplished. The cost of the instrument is $10.

KNEE-JOINT DISEASE.

The knee-joint is subject to precisely the same inflammatory and carious affections as the hip and the spine. The only notable difference in their history is, that hip-disease is limited almost exclusively to children, while spinal and knee-diseases occur at every age. The pathology of knee-disease is identical with that of the hip, and the tendency of carious spots, in one of the bones, to produce caries in the corresponding spot of the bone which rests upon it, is still more obvious than in the hip. Fig. 8 is a vertical plan of a knee-joint which I removed by the operation of resection; and the shaded portions represent the dead part of the bone. It is curious to note how exactly each sequestrum is matched by another of the same size and position, facing it from the opposite surface of the joint. The two sequestra in the femur were, probably, first formed, and by the constant irritation which they kept up, they caused the death of those spots in the patella and tibia which rested upon them.

It is noteworthy also that the disease has occurred exactly at the two points which are subjected to the greatest pressure in the use of the limb.

I have introduced this engraving for the express purpose of showing the injurious effects of pressure, and of impressing upon the reader the importance of removing that cause of evil by suitable extension splints. The treatment, therefore is identical with that of hip-disease, and the same instrument (see Fig. 6,) is required. The uniform conclusion, from the best experience is, that this treatmemt. applied in the first stage, is even more successful in the knee than in the hip. If, however, the case has already proceeded to the stage of caries, the splint is no longer applicable. There should then be an early resort to resection or amputation, before the patient is worn out by suppuration and pain.

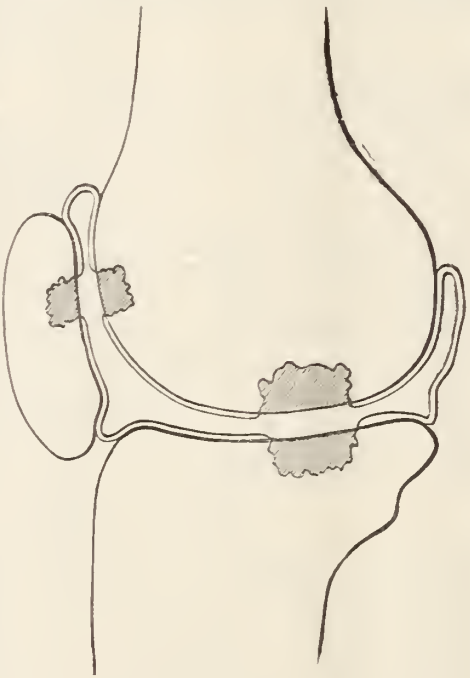

Fig. 8. Vertical Section of a Knee-Joint, showing that Necrosis in one surface causes Necrosis in the surface in contact with it.

CLUB-FOOT, (*Talipes.*)

The recent improvements in mechanical surgery bid fair to abolish almost entirely the operation of cutting the tendons in club-feet. Some very excellent surgeons, both in this country and in England, now treat this deformity almost wholly without tenotomy, it being found that the contracted tissues will always yield to a steady tension properly applied. Even old and

apparently hopeless dislocations of the hip-joint have yielded to steady tension kept up for weeks by means of elastic bands, so that the head of the bone was gradually brought down and replaced in the socket.

Every distorted joint may be made to return to its normal position, by steady and long continued traction. The principle of the management of talipes without tenotomy is, therefore, very simple; but the successful application of it depends upon the patience, faithfulness, and ingenuity of the surgeon. There are also a few instances where the practical difficulties render the principle inapplicable. The appliances must be prepared by the surgeon for each particular patient, and varied to suit the peculiarities of the case; and the materials for them consist mainly of adhesive-plaster and elastic webbing. The following description may serve to convey the general idea. We will suppose it to be a case of talipes varus. The first thing to be done is to secure two firm points of traction, which will not hurt the patient. For the first, we envelope the foot in bands of adhesive-plaster, carefully adjusted, bringing their free ends under the sole and up the outer side. They are there gathered in one, two, or three groups, or sometimes all attached to a small rod running parallel to the outer border of the foot. The second point of tension is easily made by attaching broad adhesive-straps to the upper part of the outer side of the leg. It is convenient to arm the lower extremities of these with light buckles. The upper and lower adhesive-straps are now connected by from one to three strips of elastic webbing which, of course, pass over the outer malleolus and tend to draw the foot to its position. A small cushion should be placed upon the malleolar region to receive the pressure of the bands. Thus prepared, let the elastics be buckled to a very gentle tension for the first few days, until the skin becomes accustomed to the presence of the apparatus, after which, they may be gradually tightened. The tension being moderately kept up day and night occasions very little pain, and the contracted parts slowly yield until the foot assumes a perfect position. Many weeks are often consumed in the treatment; but if the parents are intelligent, the surgeon need not see the child very often after the first twelve days.

Many other applications of these principles will readily suggest themselves to the ingenious practitioner, but which cannot be detailed in this brief essay.

We may truly say that, for those afflicted with spinal curvature, hip-disease, inflammation of the knee, or club foot, a new era has dawned; and vast numbers of cases supposed by our predecessors to be hopeless, will, in our day, be restored to soundness and perfect form.

ARTICLE XXIII.

INJURIES OF THE HEAD.

By Dr. GEORGE K. AMERMAN, Attending-Surgeon to the Chicago City Hospital.

FRACTURE OF THE SKULL, WITH DEPRESSION; RECOVERY WITHOUT OPERATION.

Case I.—A. H. C., aged 38, in good health, was injured, June 25th, 1863, at about noon. I saw him at 3 P.M., three hours after the accident happened. There were two wounds situated on the head. One, a simple incised scalp wound, located over the parietal eminence of the left side, and of very little consequence. Another, situated over the posterior superior angle of the right parietal, with fracture of the skull and depression. His wound was of an irregular shape, with jagged edges, and must have been produced by some blunt instrument. The portion of skull depressed was about the size of a dime, the depression not exceeding a-quarter of an inch. There were no symptoms of compression,—pulse feeble; extremities and surface of the body cool. Patient talks incoherently; has no knowledge of having received the injury, or that he is at all hurt; cannot remember a single occurrence of the day, not even what happened early in the morning; is constantly inquiring how it happened and wanting to know how he came there. The wound was dressed in the simplest manner, and perfect rest, mentally and physically, enjoined.

June 26th.—Slept some during the night; some pain in the head; pulse 72.

July 1st.—Doing well,—wound suppurating freely; skull bare, and about to exfoilate a small scale of bone; mind clear; not the slightest recolleetion of anything that took plaee on the day he was injured. From this time onward he improved daily, and nothing worthy of note occurred.

There are two interesting features conneeted with the above case,—one physiological, and one praetical. The physiological point of interest is, the curious circumstanee of the patient loosing all recollection of what took place on the day of the injury. It often happens that a blow on the head will produee complete insensibility, with loss of conseiousness, and, if the person recovers, an utter inability to recall a single instance connected with the injury; but we do not think it at all usual for an injury to produce an entire loss of memory as to what occurred hours before the injury was received. The praetical point of interest in connection with the case, has reference to the question of trephining, in cases of depressed fracture, in the absence of symptoms of compression.

The remote ill-effects of injuries of the skull, especially fractures, are well known and very much dreaded. Severe and incurable epilepsy has been traced back to some old injury of the head, and even trephining at this late period, resorted to for relief; and yet, it seems to me, the cautious surgeon will hesitate and consider very carefully every circumstance connected with the injury, before he resorts to an operation so important, merely to afford protection from some remote ill-effects which may never occur. If inflammation of the brain and its membranes constitute the principal source of danger, and are to be guarded against in every possible way, then, certainly, the less we interefere by our operations the greater the chance of recovery for our patients.

CEREBRAL HEMORRHAGE FROM EXTERNAL INJURY. DEATH,—AUTOPSY.

CASE II.—Mrs. McC., aged 40, in ordinary good health, was found, on the morning of the 5th of July, in bed, perfectly

insensible, and incapable of being aroused. One or two physicians were called in during the day, who pronounced the case hopeless; and, without any special treatment, she died in the evening. I was called to make the *post mortem* on the 6th.—Weather warm; *post mortem* congestion of dependent portions of the body well marked; arms, front and side of chest covered with black and blue spots; left eye in same condition; scalp ecchymosed in several places over the head,—one large deep ecchymosis just over the left ear; skull uninjured; beneath the dura mater, on the surface of the brain, over the whole of the left side and extending down to the base, there was a thick layer of half-clotted blood, in all, as much as half a pint; surface of the brain normal, except a small spot, which was of a reddish grey color and softened; substance of the brain, at the base, ventricles, and right half were all healthy; abdominal and thoracic organs healthy.

The above case represents, in the very best manner, an instance of fatal compression of the brain, arising from effused blood, the result of an injury. The symptoms, during the lifetime of the patient, were those of compression, and were well marked. The termination, such as might have been, from the symptoms, easily foreseen.

The single point of interest, in connection with the case, is, the occurrence of so great an effusion of blood with so slight an external injury. The ecchymosis of the scalp, which was not extensive or deep, except just above the left ear, was the only external evidence of injury. The pericranium and skull were undisturbed; and no one, from an examination of the scalp, would have regarded the case as a serious one. Treatment would have been useless, even had one been fully aware of the extent of the injury.

PENETRATING WOUND OF THE BRAIN. DEATH,—AUTOPSY.

CASE III.—P. B., aged 35, intemperate, got into difficulty with a neighbor on the evening of the 19th of June, and was struck on the head. The blow was not regarded as serious by his friends, and no surgeon was consulted. He sat up the greater part of the day following, but did not feel altogether

right. The next morning, the 21st, he was wandering and talked incoherently. During the forenoon he had several slight convulsions, which increased in severity and became more frequent. In the afternoon, he began to be drowsy and unconscious, and died in the evening.

I was called to make the *post mortem* examination on the 22d, the third day after the injury.—Weather warm; there was one wound situated on the right side of the head, over the parietal eminence, of an irregular shape, and extending through the skull deep into the substance of the brain. It would easily admit the index finger its whole length; scalp ecchymosed about the wound; external table of the skull evenly fractured; internal table jagged and splintered; the wound extended two and a-half inches into the substance of the right hemisphere of the brain, and contained numerous spicula of bone; around this puncture the substance of the brain was softened and of a reddish grey color; all other portions of the brain were healthy; abdominal and thoracic organs healthy.

There is nothing of special interest in the above case, beyond its being a well-marked instance of punctured fracture of the skull, which is rather rare. The fracture of the external table was almost as even and smooth as though the opening had been made with a trephine. The internal table was splintered and some spicula driven into the substance of the brain, but there were no fissures running from the wound. The symptoms preceding death, delirium, convulsions, and coma were such as might be expected in an injury of this nature.

ARTICLE XXIV.

GELSEMIUM* IN CONVULSIONS.

By Dr. HENRY WING, Professor of General Pathology and Public Hygiene in the Chicago Medical College.

Some years ago, in using gelsemium, I found that the mark of its distinct impression was, generally, a drooping of the upper eyelids. In some cases, which were, generally, those in which the drug had been pushed farther, dimness of vision was complained of, and sometimes the patient would say he could not see. As the optic nerve has its origin somewhat remote from the one most commonly affected, and as the muscles which direct the eyeball are supplied in common with the *levator palpebrarum* by branches of the *motor oculi*, it suggested that the defect of vision might be owing to unsteadiness and want of coördination of the eyeballs. Accordingly, in a number of cases, I asked the patient to cover one eye with the fingers and look with the other. In this way, they said, that they could see. I do not remember any case where this trial failed of the same result, but the number of instances where I pushed the remedy to that extent was not large.

In one case which came to my knowledge, but I did not see, the tongue was so far paralyzed as to render articulation impossible, though the voice was not impaired. In another, where I prescribed the medicine, but did not see the patient under its influence, he reported that he lost all control of himself, and lay upon the bed wholly unable to rise or lift his hand. The article employed in this case was gelsemine, (which I do not regard as of uniform strength,) and the dose was two grains, having been increased from half a grain, at periods of an hour, until that amount was reached, and the effects above-mentioned.

* This is the orthography of the late edition of the Pharmacopœia, in which the editors seem to have followed Prof. Gray, in his Botany, in an innovation which has no warrant but the caprice of the author. I adopt it, because it is almost a necessity to have a uniform usage, and it is not convenient to establish any other than that of the Pharmacopœia.

It may be worth while to state, that the case just mentioned was one of osteosarcoma of the upper maxillary bone, involving the nose on one side, and the infraorbital firamen. The medicine was given as an experiment, to allay the agonizing pain. The patient seemed to regard it as successful in that respect, but he was so much alarmed that he was unwilling to repeat the experience.

Having found, by the above cases, that gelsemium suspended the action of some of the voluntary muscles, and was capable, in some cases, of so affecting them all, I thought this property might be made useful in cases where the muscles act inordinately and beyond the control of the will, as in tetanus, and some forms of convulsions, where the muscular action is both an evil and a source of mischief. Accordingly, I commenced to employ it in such cases, as I had opportunity. Tetanus has never occurred to me to treat; but in puerperal and other convulsions I repeatedly used it with apparent advantage. In February, 1857, I employed it in a case of cerebro-spinal meningitis, restraining, apparently, the muscular contractions and, perhaps, contributing to the cure which was effected under circumstances not encouraging. In all these cases, however, there was room for doubt as to whether the medicine really had the effect supposed. It was the common experience of medical uncertainty, with an affirmative presumption. Recently, I had an opportunity of trying its effects under circumstances almost equivalent to a demonstrative experiment.

I had a patient subject to paroxysms of convulsions, which could be positively recognized in their approaches, and, when once distinctly initiated, they never failed to culminate in well-marked opisthotonos, lasting a number of hours. The case had been in the care of a very accomplished physician in St. Louis, who had skilfully employed upon it most, if not all, the recognized resources of our art, with but partial and varying success. At first, I endeavored to avail myself of the results of his experience in the case, and to that end I pushed to a full impression quite a number of articles, with a view to arrest the paroxysms when they were evidently coming on. I may specify,

in this connexion, morphine, ether, chloroform, both alone and in combination, and the two volatile articles, both by inhalation and ingestion,—cannabis Indica, valerian, assafœtida, and nasueants. Some of the more powerful of these would exercise a certain influence over the symptoms, but they would still continue very near their natural term. After a severe paroxysm had exhausted itself, sleep generally followed of a very sound character.

It may be further stated, that the case was one of enlargement and induration of the uterus, associated with great hyperæsthesia of that organ. There was also some tenderness of the fourth dorsal vertebra; and ice passed over that part gave a sensation of heat. To avoid a lengthened detail, I will merely state, that I regarded the spinal symptoms as secondary in their origin and not owing to organic change in the spine itself.

After having fully tested the means previously mentioned, I determined to make a vigorous effort with gelsemium and push it to the verge of excess. An opportunity presented itself August 3d. After ten in the evening, the usual symptoms of a paroxysm began to manifest themselves:—First, there was pain in the womb, then in the back and head, accompanied by constant activity of the fingers, twisting up edges of the bed-clothes, drumming, etc., which had the appearance of being voluntary; but whilst the will could direct the movements, it could not stop them; frequently the arms, and at other times the lower extremities, would be tossed about. When the symptoms were a little more advanced, there would occur a sudden start of all the muscles, as if a flash of electricity had been sent through the whole body, and the head and legs began to be uncontrollably bent backwards.

After these manifestations had reached the degree just described, having been over an hour in progress, and it being quite certain that, without more successful treatment than had yet been tried, the violent convulsions would come on and consume the rest of the night, I commenced the administration of gelsemium. The article used was a fluid extract, made by J. S. Merrill, of St. Louis, and stated by him to be about

four times the strength of the common tincture. I gave of this thirty drops. In three-quarters of an hour there was no abatement of the symptoms, neither had they decidedly advanced. There was a little heaviness of the upper eyelids. I repeated the dose. In ten or fifteen minutes, the patient began to be quiet, to keep her eyes closed, and to sleep. In half an hour, she said, that she could not see, and she began to sleep very soundly, as she did, generally, when the paroxysm of convulsions had spent itself. The sleep became so heavy that I thought it might be prudent to counteract it with coffee. Coffee was brought, and I asked her to cover one eye and endeavor to see with the other. She took a little of the coffee, covered the eye as requested, but could not keep the other open long enough to ascertain whether she could see or not. Afterward, she said, in regard to this, that her eyes seemed crossed, and dancing in her head. She remained intensely drowsy (if such an expression may be allowed,) all night. There seemed to be a struggle between the two influences operating upon the system. At times, she would throw herself across the bed, as she was accustomed to do in the beginnings of the paroxysms, and would pass her hand in an excited manner over the hypogastric region, then relapse into sleep again, all the time having the eyes closed. When interrogated on the subject, she said, that the uterine pain continued as before.

August 10th, one week after this, I had an opportunity of repeating the experiment on the same patient. Twitchings of the fingers and a sort of subsultus began about 10 o'clock. This extended to the limbs, causing the patient to throw herself in a restless manner from one side of the bed to the other from time to time. At intervals, sudden startings of the whole body would occur like electric shocks, followed by bending the head and limbs somewhat firmly backward. The patient made a most determined effort to control the movements by strength of will, but they increased in force. At 12 o'clock, I found the symptoms as above. Thinking that in the former case I had used more of the gelsemium than necessary to control the symptoms, I endeavored, by small and repeated doses after one

full one, to ascertain the amount necessary. I ordered thirty-five drops to be administered, and ten more to be given every ten minutes. The direction was not strictly carried out, but it was done as follows:—

12 P.M.,		35	drops.
12.20 P.M.,	no effect,	10	do.
12.30	do. do.	10	do.
12.40	do. do.	10	do.
12.55	do. slight heaviness of eyelids,	10	do.
1.5	do. no increase of effects,	10	do.

Finding this state of the case, I ordered the doses to be doubled. Accordingly, at 1.15 twenty drops were administered, and in ten minutes more the heaviness of the eyelids was becoming almost uncontrollable and the muscles, generally, becoming quiet. No more medicine was given. The eyes could be seen to be tremulously moving under the imperfectly closed lids. Sleep came on, but at intervals, for a short time, the patient would seem to arouse and turn over or throw herself into a new attitude with a sort of struggle, as if trying to awake; but the sleep became more continuous and extended into the morning, contrary to the habit of the patient, who is a poor sleeper. In the morning she rose up suddenly, and, looking at the clock, said, "Why! it is 8 o'clock!"

I do not wish to be understood as considering this as evidence of a soporific effect of the gelsemium. I have never found it to act in that way. Before commencing the administration in the case above, I made several attempts to ascertain the character of the pulse, which were unsuccessful on account of the constant action of the muscles. When it became practicable to examine the pulse, under the influence of the medicine, it was found to be equable, only moderately full, and eighty beats to a minute. So far as could be judged, it was not materially changed. On the following day, though she promptly read the hour on the clock at eight, she was unable to read a letter until some time in the afternoon, either with both eyes or one.

August 12th.—The patient being out of my reach, and feeling the approaches of a paroxysm, herself asked for the medicine

to be given, according to my directions for such an emergency. Forty drops were accordingly given at half-past seven, and twenty drops more given every half hour until four doses were given. She then said, she thought with ten drops more she would sleep, as she did, resting well until morning, but not oversleeping her usual hour, as in the former case, where the paroxysm was formed before being interrupted.

August 15th.—The threatenings of a paroxysm were distinct. Forty drops were administered, and in half an hour thirty more, with the effect of preventing the paroxysm as before, but the patient was entirely unable to sit up for the remainder of the afternoon.

If subsequent observation in other cases shall accord with the experience related in this article, we have in gelsemium a medicine almost exactly antagonistic in its action to strychnia, —capable of restraining involuntary muscular action, as that drug excites it, and having a wide range of practical applications.

In tetanus, great benefit might be expected from such a remedy. In puerperal convulsions, the removal of the pathological cause often requires time, during which, the recurrence of the paroxysms is a cause of anxiety. Any means which would prevent these would be valuable. In poisoning by strychnia, when not speedily fatal, but a tetanic state is induced, of suffering and danger, there would be time to get the counteracting effect of gelsemium. Many other uses will suggest themselves to the practitioner.

How much is required to produce the effects considered? I have not the means of giving a definite answer to this question. I have stated the amount I have used, of the article I had. If correctly informed of its strength, the doses were about three times those generally administered for other purposes. In the case where I first produced general paralysis, it will be remembered that the dose was two grains of gelsemine following one grain and a-half at a period of one hour.

Is it safe? I think that when carefully proceeded with the drooping of the eyelid is sure to be in advance of the profound

impression, and something short of it. It does not seem to be ever cumulative. Is it followed by any bad consequences? So far as my observations have allowed me to judge, the profound impression upon the voluntary muscles has not been accompanied by any effect upon the involuntary muscles or the functions of organic life. In all the cases where I have seen impairment of vision, no trace of it has remained, nor any other disagreeable effect.

Of course, impressions so profound upon the nervous system will never be resorted to by the intelligent practitioner, either recklessly or without due consideration and care. What might be the effect of pushing so powerful a drug farther than to the extent of producing general paralysis, others can conjecture as well as I. Without some unfortunate accident, it may be hoped it may never be settled by experience, unless upon some of the lower animals.

Proceedings of Societies.

MEETING OF CHICAGO MEDICAL SOCIETY, August 7th, 1863.

HYDROCELE,—SUPPURATIVE DIATHESIS; SULPHITES, &c.

Reports of cases being in order, Dr. WANZER related a case of hydrocele in a man 60 years of age. During the past winter and spring he had tapped the hydrocele twice, the first time drawing off a quart of limpid serum, and the second time but little more than half that quantity. The fluid, however, again slowly accumulated and distended the sac to a degree very burdensome to the patient.

On consultation with Dr. FISHER, an operation for radical cure was determined upon. Accordingly, Dr. FISHER performed the operation by an incision, between four and five inches in length, laying the sac of the hydrocele freely open. About one pint of slightly turbid serum escaped. The testicle appeared healthy: and the wound was dressed with lint.

When the suppurative process was established, Dr. WANZER said, the pus was "sanious and most horribly offensive to the smell, and evident symptoms of phlebitis were present. There was general anemia and palor of countenance, approaching the hippocratic expression." He used disinfectant washes to the wound, and gave, internally, the muriated tincture of iron, freely. No improvement took place, and Dr. FISHER was again called in consultation. In accordance with his advice, the patient was given one drachm doses of *sulphite* of lime, every four hours. The same local applications were continued as before. When eight doses of the medicine had been taken, a marked change for the better was observable in all the symptoms. The remedy was continued at the same rate until one ounce more had been taken, when the improvement in the symptoms, both general and local, was such as to render any further medication unnecessary.

The wound rapidly cicatrized; and the patient has pursued his usual occupation (gardener,) several months since. In concluding the case, Dr. WANZER, said, "there was a mysterious something that rapidly and decidedly changed the diathesis of the patient in less than forty-eight hours. If it was the sulphite of lime, will some member of the Society explain its mysterious action?"

Dr. N. S. DAVIS, inquired whether the free incisions into the sac, exposing its whole internal surface, and the consequent risk of severe inflammation and unhealthy suppuration, was necessary to effect the radical cure of hydrocele? He related a case of hydrocele in a young man, who recently came under his care, in which a cure was speedily effected without the occurrence of any severe symptoms, by means of the seton, as recommended by Dr. GROSS, in his large work on surgery. It seemed to him that the seton was a much more safe and equally certain means of obtaining a radical cure.

Dr. I. HATCH remarked, that he had used the seton, and seen it used by others, for the permanent cure of hydrocele for several years past, and with uniform success. He regarded it as preferable to any other method. He said, the fluid in the

sac escaped gradually by the silken threads of the seton, and its place was speedily supplied by plastic lymph, resulting in complete obliteration of the sac. The threads of the seton should be removed as soon as the plastic effusion is sufficiently copious to render the scrotal tumor solid instead of fluctuating.

Dr. E. L. HOLMES wished to ask, in connection with the subject of suppurative diathesis suggested by the case of Dr. WANZER, what is the pathology of those cases which come to the physician not unfrequently, in which the patient, in apparently good general health, complains that his "blood is bad," because every slight wound he gets festers or suppurates and makes a sore instead of healing up kindly; and sometimes without any scratch or injury, pustules of impetigo, furunculi, or malignant pustules make their appearance, on some part of the cutaneous surface. Such patients were familiar to every practitioner, and he would like to hear some explanation of their pathology, with a view to some rational treatment.

Dr. M. O. HEYDOCK remarked, that the questions asked by Drs. HOLMES and WANZER involved investigations of the highest interest and importance. The actual pathological condition of the blood in those cases presenting a tendency to suppuration, pyæmia, erysipelas, etc., is a subject now undergoing active investigation, both in this country and Europe. The experiments of Dr. POLLI, in relation to the action of the sulphites in counteracting blood-poisoning, and their subsequent use by members of this Society, in the successful treatment of malignant erysipelas and kindred affections, certainly opened a new field of study in rational therapeutics. The new and more extensive application of bromine in the treatment of hospital gangrene, as illustrated by the Reports from the Military Hospitals of Louisville and elsewhere, belongs to the same field of inquiry. Still, he was not prepared to attempt a full answer to the questions proposed by either of the gentlemen who had preceded him in this discussion.

Dr. N. S. DAVIS, suggested that the only explanation which could be given in relation to the *modus operandi* of the sulphites, was that afforded by the experiments of Dr. POLLI, together

with their well-known efficacy in preventing fermentation in inanimate matter. That the minute atom of infectious or contagious poison that gains access to the blood, whether by inhalation or inoculation, multiplies itself until it becomes sufficient to disturb the whole system, by a process analogous to that of fermentation, there can scarcely be a doubt; and, if so, we could see no reason why the presence of a sufficient quantity of the sulphites in the blood would not interrupt that process as certainly as it does in inanimate compounds out of the living system. Whether acting upon the clear and important idea here set forth, other remedies may not be discovered more efficacious than the sulphites remains to be determined. He suggested a distinction between the action of the sulphites and the class of remedies having chlorine, bromine, iodine, etc., as a part of their composition. The latter produce their effects by destroying the noxious gases and agents with which they come in actual contact, and by moderately promoting the action of the excretory organs of the system. Hence, they are properly called *disenfectants* and *alterants*.

On the other hand, the presence of the sulphites prevents those changes in animal and vegetable substances, by which noxious agents are evolved; and, hence, are properly called *anti-septics*. The distinction he deemed an important one in practice. In relation to the cases of "bad blood," or "impure blood," alluded to by Dr. Holmes, he suggested that they were capable of being arranged into three classes. The first, are such cases as arise from some disorder of the excretory actions, such as habitual deficiency in the eliminations from the skin, kidneys, or liver, thereby leaving the effete materials of the system in excess in the blood. These cases are most apt to occur during the transition of the seasons, the spring and autumn, but may occur at any period of the year in persons of sedentary habits, or in those whose avocations habitually disturb the natural equilibrium of action throughout the animal economy. The second class of cases originate from a disturbed or imperfect metamorphosis of tissues. They are seen most frequently during recovery from attacks of the typhoidal class of acute dis-

eases. They are seen frequently also among those who live in damp and poorly ventilated apartments, and in those who habitually retard metamorphosis by the use of alcoholic drinks.

The third class of cases arise from the positive reception into the system of some of the milder class of septic poisons. These are much less numerous than the preceding classes, but not less important. The mere statement of the pathology of these several classes of what might be called minor blood maladies, suggests their proper remedial management.

Selections.

STIMULANTS IN THE ARMY.

VICKSBURG, *August* 1, 1863.

To the Editor of the American Medical Times:

SIR:—In your number of July 11th, I was gratified to read a discussion on the subject of the use of alcoholic stimulants in the treatment of pulmonary diseases. Also an editorial by yourself, headed "An Indolent Profession."

The subject first mentioned, as you justly remark in another place, is of great importance in its relation to the habits of the people. Unfortunately, the discussion of this and similar questions is sure to be influenced by the habits and preconceived notions of the disputants. Dr. Davis, of Chicago, whose advocacy of total abstinence is well known to the public and to the profession, shows by statistics that tuberculosis is very common among those who have used alcoholic drinks as a beverage or a medicine; while not one of Dr. Flint's cases, sixty in number, acquired a craving for stimulants. Dr. Parker cautions us strongly against the practice of whiskey-drinking, and Drs. Blakeman and Post give cases in which the habit of intemperance was formed from the prescription of the physician. These habits were followed by an ignominious death and a dishonored grave. I suppose that any physician in general practice, who did not use these stimulants himself as a beverage, would give the same testimony. I am sorry to hear you say that habits of intemperance are increasing rapidly amongst the people. During the last two years I have lived pretty much amongst the

camps, and know but little of the condition of society. My life in the army has, however, given me an opportunity of making observations on the use, medical and general, of these stimulants among soldiers.

The appetite for stimulants in this department is certainly very strong, and is due, perhaps, first, to the effects of the intense and prolonged heat, producing great prostration; second, to want of variety in food; and, third, to the active agency of the malaria so common in this district. The intense heat calls for stimulants; the uniform rations, generally very salt, call for drinks, as does the free and general perspiration induced by the heat. The continued cause of poison by malaria, producing diarrhœas, gastralgias, mental, moral, and physical depression, seems to call imperatively for alcoholic stimulants. And what are we to do? The remedy is often at hand, and the relief, though temporary, is immediate. With the idea of a malarial influence entering the system through the digestive organs, I early adopt the plan of using freely vegetable acids, particularly citric, as a beverage. I found that the water which I drank was corrected by it, the gastralgia and sense of prostration relieved, while the frequent recurring diarrhœas were often prevented or cured. In charge of a large hospital at Grand Gulf, I recommended this practice to my medical staff, and they adopted it both individually and in their practice. Without it, the water we drank would often produce diarrhœa in less than an hour. Surgeon Robarts, of the hospital-boat belonging to the marine fleet, has adopted the practice, and has his officers and patients freely supplied with lemonade made of citric acid, sugar, and water. Several surgeons in the field have informed me that they do the same thing in their regimental hospitals, and all with good effect. It is very common amongst the officers of the army, especially in the Southern Department, to carry with them a supply of what they call "good old Bourbon," which they imbibe statedly, in quantities proportioned to the sensibilities of the stomach, as a prophylactic. They often, in addition to this, carry with them a quantity of morphia or pulverized opium, which is to be used as a *dernier resort*. Now, I have found that whenever an officer with these habits contracts diarrhœa or fever, it is ten times more difficult to stop it and cure him than it is to cure the same disease in one that does not use that prophylactic. The truth is, the evil in these prophylactics, to wit, the subsequent prostration of the stomach and other digestive organs, quite overbalances the temporary good obtained. To secure

good health, and prevent the accession of disease, good and continuous digestion is necessary. This is sure to be interrupted by the aforesaid prophylactics. In my opinion, the only way to prevent such prostration following the use of these stimulants, is, to take them in small quantities, and always accompanied with some article of nutrition, such as milk, soup, bread or crackers, and cheese, or something of the kind. In that case, the stimulants act as a digestive, and the prostration which would have followed its use is prevented by the absorption of the nutritious matter. But I have strong doubt of the propriety of using alcoholic stimulants in any case as prophylactics. The remedy, in its effects, too often becomes worse than the disease.

Alcoholic Stimulants as Medicines.—I claim the right to use any article I can find in the animal, vegetable, or mineral kingdom, as a medicinal agent: but I would use the remedies with great caution, and always with the same restrictions that I administer narcotics and cerebral stimulants generally. I have accomplished great good by the judicious use of alcoholic stimulants in the hospital practice of the army. Convalescence from typhoid fever if often best treated by the use of these stimulants, and debility from various other causes may be removed according to the principles above suggested. The fact should always be kept clearly in mind that a stimulant is not tonic, but exhausting, unless followed by an improvement in the digestive organs. The physician at the same time is bound to respect the organization of his patient, and not (if possible,) in curing him of one disease, lay the foundation of another and worse one.

Finally. I am surprised to hear you speak of an "indolent profession," and complain that medical men do not contribute to the literature of their profession. I supposed that your columns were continually supplied with original articles, both from the army and from private practice. I seldom see a medical journal, and cannot judge for myself. I know there are large numbers of well educated literary men in the army, who, no doubt, daily record what they see and practice in camp and hospital. These things will be published "when this cruel war is over." The Surgeon-General has taken measures, which will, no doubt, be effective, to secure an official record of the Medical Department of the Army in good form and due time. Gentlemen are, probably, occupied with these compositions, and contribute less to the journals than they otherwise would. In my opinion, a good record of military surgery is all that has

been wanted to bring the medical literature of this country up to the European standard. This is now being done, and henceforth our medical, like our monetary resources, will not depend upon foreign speculators. Yours, etc.,

JAMES BRYAN, *Surg. U.S.V.*,
Department of the Tennessee.

LECTURE ON ECZEMA,

INCLUDING ITS IMPETIGINOUS, LICHENOUS, AND PRURIGINOUS VARIETIES.

DELIVERED AT THE

DISPENSARY FOR SKIN DISEASES, GLASGOW.

By T. McCALL ANDERSON, M.D., F.F.P.S., Physician to the Dispensary for Skin Diseases, Physician to the Deaf and Dumb Institution, etc.

Reprinted from the "Medical Times and Gazette."

You will remember, gentlemen, that in the preceding lecture, on entering upon the treatment of eczema, I endeavored to impress upon you the necessity, in the first place, of attending to the state of the internal organs, and more particularly to the condition of the stomach and bowels. I then discussed those cases which are under the influence of cod-liver oil, generous diet, iron, and tonics generally, and entered upon the consideration of that class of cases in which the general health appears excellent, and which are more amenable to arsenic, sulphur, and alkalies. The preparations of *sulphur*, though not so generally useful as those of arsenic, are highly serviceable in the treatment of some cases of eczema, especially when the eruption occurs in persons of the lymphatic temperament, and when it is on the decline. When speaking of the administration of purgatives, I told you that the advantage which a sulphur purge possesses over a calomel one is, that it is eliminated in part by the skin, and exercises an alterative effect upon that structure. If, however, we wish to avail ourselves to the full extent of its alterative action, it is advisable to prescribe a course of one of the natural mineral waters which contain sulphur. Those of Harrogate and Moffat in this country, and of Enghien, Baréges, and Luchon on the continent, have the greatest reputation in this respect; and, while some of these waters may be had from the apothecary, it is always more judicious, when it can be effected, to send your patient to the spring itself; for he is thus certain to get the waters fresh and pure, and, away from home and the fatigues and anxieties of

business, his body is at the same time invigorated and his mind refreshed.

Alkalies are not nearly so generally employed as the preparations of arsenic and sulphur in the treatment of eczema. They are most beneficial when the patient is much addicted to the use of stimulants, and when there is a tendency to acidity of the stomach and to the deposit of lithates in the urine, or to gout or rheumatism. The preparation most in vogue is aqua potassæ, which may be given, largely diluted with water, in doses of twenty minims thrice daily to an adult. The alkali which I am most in the habit of using, however, and which has not, I think, been tried hitherto in this country for such a purpose, is the sesquicarbonate of ammonia in doses gradually increasing from ten up to thirty or even forty grains thrice daily, care being taken that the preparation is fresh and of full strength. A dose of forty grains is often borne well by a patient whose stomach has been gradually accustomed to its reception, while a smaller dose often occasions vomiting in the case of those who have not been in the habit of taking it. Sometimes it is well to continue the ammonia with Fowler's solution or one of the other arsenical preparations. If there is a decidedly gouty tendency, small doses of wine of colchicum, (say ten drops,) and in rheumatic habits, the acetate or bicarbonate of potash (in half-drachm doses,) may be added to each dose. The alkalies must be given *largely diluted* with water, and the dose must be gradually increased till the medicine disagrees or the eruption begins to fade.

Hydrocotyle Asiatica has been greatly extolled of late, especially by the French, in the treatment of eczema. It has been very little used in this country, however, although it seems well worthy of a trial, if we may judge from the high encomiums which have been passed upon it by our continental brethren. I have not yet tried it in Dispensary practice, owing to the narrow-minded policy of the French manufacturer, who sells each little bottle of granules at five francs; and, as there are about eighty granules in a bottle, it follows that every ten or fourteen days five francs must be expended, which is too much for the ordinary run of Dispensary patients. In private practice I have tried it several times, and apparently with benefit; but my experience of it is not yet sufficient to enable me to decide upon its merits. I would advise you, however, to try it in cases which resist the ordinary means of cure. The directions for the use of the granules are given in a paper which is enclosed along with each bottle.

Before leaving the internal treatment, let me lay before you four rules which you must carefully attend to in the employment of alterative medicines:—

1st. Let the dose, at first small, be gradually increased till the medicine disagrees, or till the disease begins to yield, and then let it be gradually diminished.

2d. If the medicine disagrees, do not omit it altogether without very good reason, but try it in smaller doses, or in another form, or omit it for a few days till the bad effects have passed off.

3d. To give it a fair trial, it must be continued for a considerable period of time, because in some cases the eruption does not disappear till after it has been administered for many weeks.

4th. Do not permit the patient to give up taking the medicine till some weeks have elapsed since the complete disappearance of the eruption.

If, as I hope, I have convinced you of the great benefit which accrues from the judicious selection of internal remedies in the treatment of eczema, and of their power, in many instances, of removing the eruption when administered alone, you will, perhaps, be hardly prepared for the statement which I make, as the result of some *experience*, that the *local* treatment is even more effectual than the constitutional, although it must be confessed that the applications made use of by many practitioners in this country are unfortunately too often ineffectual, and not unfrequently injurious.

I shall not attempt a description of all the preparations in general use in the local treatment of eczema,—some of them good, some useless, many hurtful,—but shall endeavor to lay before you a short account of those which I have found most valuable, and, what is of the greatest importance, to point out, as far as possible, the indications for their use.

The first point in the local treatment of every eczematous eruption, without exception, is to remove all the crusts which have formed upon it. Till this is done, we can only guess at the condition of the parts beneath; our applications must, in consequence, be selected at random, and these cannot reach the diseased surface whose condition they are intended to modify. You will often meet with opposition on the part of the patient or friends in carrying this injunction into effect, either owing to their laziness, to their preconceived opinions, or to the pain which is sometimes experienced in the removal of the crusts. Patients come here, day after day, informing me that they have

done what they could, but have only partially succeeded. You should, in such instances, repeat your instructions, and send your patient home again, for my invariable rule is to refuse to prescribe any local applications till the diseased surface is fully exposed to view, by which means much less time is lost in the end, and the subsequent treatment is much more satisfactory.

The removal of the crusts is a very easy matter, and each practitioner has his own favorite method of procedure. I usually recommend a poultice composed of crumb of bread and hot almond oil to be applied to the eruption at night, and if the crusts do not come away with the poultice in the morning, the part is lubricated with fresh almond oil, and the crusts removed with the finger nail about half-an-hour afterwards, when they have become thoroughly softened. When the crusts reappear, as frequently happens, especially at the commencement of the treatment, they must invariably be removed before the reapplication of the curative agent.

Let us suppose, now, that all the crusts have been removed, and the diseased surface fully exposed to view, what local applications are we to make use of?

If the eruption has just made its appearance, if the surface is acutely inflamed, if it is studded with numerous vesicles or pustules, but particularly if *burning heat* is complained of in place of itching, local sedatives must be employed. A very good application is a cold potato-starch poultice, a small quantity of a powder containing camphor being sprinkled over its surface before being applied, which relieves, at once, the burning heat.

R. Camphoræ, ... ℥ss.
Alcoholis, ... q. s.
Pulv. Oxydi Zinci, ...
Pulv. Amyli, ... āā ℥iij. M.

Sig. Sprinkle a little over the part, or upon the poultice occasionally, to ally the burning heat. Let a small quantity be made at a time, and let the powder be kept in a stoppered bottle, as it loses it strength by exposure to the air.

Or, instead of poultices, emollient ointments may be employed, such as the simple or benzoated oxide of zinc ointment, cucumber ointment (Neligan), or cold cream. A mixture of powdered oxide of zinc and glycerine, in the proportion of half an ounce of the one to two ounces of the other, forms likewise a very soothing application, and to these may be added a little camphor if necessary.

℞. Camphoræ, ... ℥ij.
Pulv. Oxydi Zinci, ... ʒss.
Glycerinæ, ... ʒij.
Cochinillini, ... gr. ij.
Spt. Rosarum, ... ʒj. M.

Sig. Stir the mixture before using it. Rub a thin layer over the inflamed part twice or thrice daily. A most elegant formula.

When the disease becomes chronic, as is indicated more particularly by the disappearance of the burning heat, and the supervention of itching, the local applications which are appropriate are very different, but even they vary according to the stage of the eruption.

If there is *infiltration* of the skin, to any extent, the local treatment which I am in the habit of prescribing is that recommended by some continental dermatologists—in connexion with which the name of Hebra must always be honorably associated,—and which has only of late began to peep forth in fragments in English Medical Journals. This is the treatment by means of *potash* applications, which has been uniformly adopted at the dispensary, and with great success. Having had the privilege, some years ago, of witnessing the carrying out of this means of cure in Hebra's wards at Vienna, some of the prescriptions may resemble very much, or even be identical with, those of that distinguished dermatologist, though I am unable to state at this moment which are due to him and which are mere modifications of my own. I trust, however, I have sufficiently done justice to his merits, and that you will acquit me of the desire of taking any credit, except in so far as the success of this treatment has been first thoroughly established in this country by my colleague, Dr. Buchanan, and myself.

The strength of the local application varies with the amount of the infiltration, and likewise with the extent of the eruption; for, of course, when the disease is extensive, it would be injudicious to make use of those very strong applications which may be applied with safety in the more circumscribed cases.

If the infiltration is slight, or the rash extensive, common *potash soap*, (soft soap, black soap, sapo mollis, sapo viridis,) or a solution of one part of it in two of boiling water, a little oil of rosemary or citronella being added to conceal, in part, the odor, may be used.

℞. Saponis Mollis, ... ʒi.
Aquæ Bullientis, ... ʒij.
Olei Citronellæ, ... ʒss. M.

A piece of flannel dipped in this should be rubbed as firmly as possible over the affected parts night and morning, and the solution allowed to dry upon them, though it should be washed off before each reapplication; or a piece of flannel wrung out of the solution may be applied to the part, and left in contact with it all night if the patient can bear it.

A more elegant preparation is the *aqua potassæ*, (Ed. Ph.,) which may be painted over the eruption night and morning with a large brush, its irritant action being neutralized by means of cold water when the smarting becomes excessive.

Instead of soft soap or aqua potassæ, solutions of *potassa fusa* may be employed. In the mildest cases, with only slight infiltration, two grains of potassa fusa in an ounce of water; in the more severe, five, ten, twenty, thirty grains or even more. An ounce of water may be used, but I rarely resort to a stronger solution where the eruption is extensive. Even the solution containing thirty grains to the ounce, which may be applied in the same way as aqua potassæ, must be washed off with water very speedily, and the application should not be repeated oftener than once daily at the most. When such a strong solution is prescribed, and, especially if the eruption is extensive, it is advisable for the physician to apply it himself, at first at all events. The solution has been used too strong, or been allowed to remain on too long, if it produces any manifest destruction of the skin. When the eruption is very limited and very obstinate, a much stronger solution may be applied, and Hebra sometimes uses a solution of one drachm of potassa fusa in two drachms of water, or even employs the solid caustic itself. This must be done, however, with the greatest circumspection, and the caustic washed off almost immediately, else it is certain to produce great destruction of the skin.

When these strong applications are used, and there is a tendency to the formation of fissures, it will be well to apply cod-liver oil or glycerine to the parts every night, by which means that brittle condition of the skin, which is so much favored by the use of potash locally, and which leads to the formation of fissures, is in part avoided.

Instead of potassa fusa, some recommend solutions of chloride of zinc in similar proportions, but I have very little experience of it, being so well satisfied with the performances of the former. The following case, however, proves that it is a useful agent:—

Hugh D., aged about 40, saddler, came to the Dispensary for Skin Diseases, March 17, 1862. Small patches of eczema were noticed on the backs of his hands, sides of his fingers, and

about his wrists. These were very itchy, with a good deal of infiltration; some of them studded with vesicles, and exuding a serous fluid, others dry and sealy. Although some of the patches were situated over the joints of the fingers, there were no fissures. A solution of chloride of zinc (℈j. to the oz. j. of water,) was ordered to be painted over the affected parts morning and evening, and, if the action was too severe, it was to be moderated by the use of cold water. In the intervals between the applications he was to bathe the hands repeatedly in cold water.

March 24.—Greatly improved; itching nearly gone; infiltration of skin much diminished; serous exudation very slight, and only after the application of the zinc lotion.

The patient noticed a slight tendency to the formation of new vesicles on and around the patches, which was at once checked, however, by the lotion.

March 31.—Eruption gone.

When any of these irritants are made use of, they cause smarting, and, when stronger mixtures are applied, often considerable pain; but patients have informed me that, although the smarting and pain are severe, they prefer it to their old enemy, the itching. On the other hand, some patients, although this is rarely the case, will not submit to a repetition of the remedy. I was particularly struck with this in the case of a medical man in this city, who consulted me some time ago, about an extensive eczematous eruption of old standing, and for whom I prescribed the mildest of the applications above referred to. He told a friend shortly after, that he had applied it once, and that it had nearly killed him, the fact being that he had been affected with eczema so long, and had tried so many useless drugs, that his faith in the effect of remedies was shaken, and he would not give a fair trial to a system of treatment which, though a little unpleasant at first, would certainly have cured him. But medical men are notoriously the worst and most refractory patients to deal with.

Having pointed out to you that the strength of the potash or zinc solutions which are employed varies with the amount of infiltration of the skin, it will probably have occurred to you that when the eruption is extensive, and some of the patches much more infiltrated than others, a weak solution may be applied to the latter, a stronger one to the former; and it is equally obvious that, as the infiltration subsides, the solution may be gradually diluted.

Often, by continuing the use of a weak potash solution for

some time after the infiltration is gone, all trace of the complaint disappears, but in most instances it is better to substitute for it one of the preparations about to be mentioned as the disease verges upon a cure. But if, on changing the local application, the infiltration of the skin reappears to any extent, you must at once have recourse to the potash solutions again. I have just one caution to give to you before leaving this subject, namely, that you must be careful in the use of these solutions, and especially the stronger of them, in the case of infants, of delicate females, or of old and infirm persons, as the shock produced by their application may possibly be followed by serious results.

While these applications are being employed, cold water forms a very agreeable and useful adjunct. The affected parts may be bathed repeatedly with it during the day, and it is advisable that it should be allowed to fall upon them from a height. Sometimes cloths wrung out of cold water may be placed upon the eruption with advantage in the intervals between the applications, and, if the rash is very extensive, much relief is experienced by plunging into a cold bath, or making use of the shower-bath or cold douche.

I have already pointed out that in mild cases the eruption is often kept up by the scratching alone, and that in these instances local sedatives have sometimes the effect of curing the disease by allaying the itching, and the desire to scratch the part. Hence you will understand how, in more severe cases, while the scratching does not of itself keep up the disease, it certainly tends to aggravate it and to make it more rebellious.

We must therefore exhort the patient to refrain from scratching, as much as possible, and at the same time we must employ means to allay the itching. The potash and zinc preparations have certainly this effect in a marked degree, and so has the application of cold water (for the time); but sedatives and narcotics taken internally are not, in my opinion, of the slightest service, except in so far as a large dose may produce sleep, and, when the patient has long been deprived of it, owing to the itching, this is much to be desired. Lotions of dilute *hydrocyanic acid*, in proportions varying from *m* v. to ℥j. (Ed. Ph.) in an ounce of water or glycerine, may be applied with advantage whenever the part is itching, instead of *giving way to the desire to scratch.*

When such a strong solution as ℥j. of prussic acid to the ℥j. of water is used, it must not be applied over a very extensive surface, and the patient must be warned that it is a very power-

ful poison. You will often find it of advantage to combine the prussic acid with one of the potash applications formerly referred to, in the proportion say of *m* x. to an ℥j. of the mixture.

℞. Potassæ Fusæ, ... gr. x.
Acid, Hydrocyan dil. (Ed. Ph.)..... ℥j.
Aquæ Rosarum, ... ℥ij. M.

Sig. Rub a little firmly over the eruption night and morning, and when the itching sensation is severe.

Some prefer the use of cyanide of potassium in the form of ointment. For this purpose, from five to ten grains may be mixed with cold cream, or the benzoated oxide of zinc ointment.

℞. Cyanidi Potassi,..... gr. vj.
Cerati Galeni, (Paris Codex,)..... ℥j.
Cochinillini,..... gr. j. M.

Sig. Rub a little firmly over the parts which are itching, but let none of the ointment remain undissolved on the skin.

Tarry preparations are of the greatest value as local applications in the treatment of eczema, though they are of no use whatever when administered internally. They have long been in vogue in this country, but have too frequently been used in a routine way, and without discrimination. You must, therefore, bear in mind the fact, that they are chiefly of use in the declining stages of eczema, when the infiltration and itching are moderated.

Common tar (*Pix liquida,*) is the application most frequently used at the dispensary, on account of its cheapness, but in private practice you may employ more elegant preparations, such as the oleum rusci or oleum cadini, (oil of cade.) The latter, which is the product of the dry distillation of the wood of the *Juniperus Oxycedrus** is manufactured at Aix-la-Chapelle, and you must be sure that it is got there, else you may have sent to you a liquid prepared from common tar.

Whichever of these preparations you select should be rubbed firmly over the eruption by means of a piece of flannel, and allowed to dry upon it. It should be applied thrice daily, and washed off as well as possible with soft soap, or, amongst the higher classes, with petroleum soap.

Several kinds of soap containing tar and oil of cade, under the name of tar and cade soaps (the latter should be obtained from Aix-la-Chapelle, but is very expensive,—3s. 6d. a cake,) are used by some instead of these preparations in their pure

* "Medicines: their Uses and Mode of Administration," by J. Moore Neligan, M D. Fourth Edition. Pp. 455. Dublin.

state. If you employ them, you should use them like common soap,—only rub them more firmly over the parts,—and in many cases you will find it of advantage to allow the soap to dry upon the eruption.

I rarely employ tar alone, however, in the treatment of eczema, but usually combine it with one of the potash solutions, in which case you may use it before the infiltration has subsided; for, while I told you that tar was most useful in the declining stages of eczema. I merely meant you to understand that it should not entirely take the place of the potash or zinc solutions while the infiltration was considerable. A most admirable preparation, one of Hebra's, and which is used to a great extent at the dispensary under the name of "tinctura saponis viridis cum pice," and with the most charming effect, is a mixture of equal parts of common tar, methylated spirit, and soft soap, which should be used exactly in the same way, and as frequently as the simple solution of soft soap.

The following case, reported by my assistant, Mr. Arthur Jamieson, many similar to which you have an opportunity of seeing almost every day at the dispensary, illustrates the beneficial effects of this mixture:—

William S., aged 45, laborer, came to the Dispensary for Skin Diseases, on November 10, 1862. He was affected with "eczema impetiginodes" of both ears and the whole of the face, with the exception of the nose. He complained of intense itching, with considerable heat of the parts. The exudation, of a purulent nature, was abundant, and in many parts had concreted, forming large crusts which almost entirely covered the whole of his face. The infiltration of the skin was great; his general health pretty good.

He was ordered a calomel and scammony purge, and a mixture of oxide of zinc and camphor, in the proportion of gr. xx. of the latter to oz. j. of the former, was applied night and morning to the eruption after the removal of the scabs.

13th.—No improvement; ordered the tinctura saponis viridis cum pice.

24th.—Eruption completely gone.

In private practice, where expense is less an object than the elegance of the preparation, you may substitute oil of cade for common tar, and rectified spirit for methylated spirit, while a little oil of lavender may be added to conceal in part the disagreeable odor, or, instead of using soft soap at all, a solution of potassa fusa may be added to the mixture, the amount of the caustic potash depending upon the amount of infiltration of the skin.

℞. Saponis Mollis, ...
Spt. Rectificati, ...
Olei Cadini, ... āā ℥j.
Olei Lavandulæ, ... ℥jss. M.

Sig. Rub a little firmly over the eruption night and morning, and wash it off before each reapplication.

The preparations of mercury and sulphur, justly esteemed in the treatment of eczema, are most beneficial when the eruption is verging upon a cure, when the infiltration and exudation are gone, and the itching moderated.

Of the mercurials, citrine ointment is my favorite application, though the red and white precipitate ointments are, perhaps, equally useful, or the "Unguentum hydrargyri iodidi" of the London Pharmacopœia. These may be used of full strength or diluted with lard, and, if it is indicated, a few grains of cyanide of potassium may be added to allay the itching. If a lotion is preferred, from one to four grains of the bichloride of mercury may be dissolved with the aid of a little alcohol and mixed with an ounce of rose water, while a little dilute hydrocyanic acid may be added if necessary, the solution being rubbed into the part two or three times daily. In using mercurial preparations locally, you must always bear in mind the possibility of their being absorbed in sufficient quantity to produce salivation; hence you must be careful in anointing an extensive surface, and should warn the patient to discontinue the application if the gums become tender.

It was only the other day that I ordered a lotion of bichloride of mercury (gr. ij. to the ℥j. of water,) to be applied to the nose of a lady, and in three days, to my astonishment, salivation had occurred. On the other hand, I have repeatedly ordered stronger lotions to be applied to extensive surfaces for weeks without the occurrence of the slightest tendency to salivation, thus showing the peculiarities of different constitutions.

Of the preparations of sulphur, the common sulphur ointment, of full strength or diluted, and with or without the addition of cyanide of potassium, forms a very useful application. In some cases you may add a little bicarbonate of potash with advantage.

℞. Cyanidi Potassii, ... gr. v.
Sulphuris, ...
Bicarbonatis Potassæ, ... āā. ℥ss.
Cochinillini. ..... gr. i.
Axungiæ, *ad.*, ... ℥j. M.

A drachm of sulphur mixed with an ounce of alcohol forms a

capital lotion, but you must tell the patient to shake the bottle before pouring out the liquid, as the sulphur falls to the bottom. This should be rubbed firmly over the part night and morning and allowed to dry upon it. If the patient is drinking sulphur waters, at Moffat, Harrogate, or elsewhere, and especially if the rash is on the decline, he may combine their external use with their internal administration in the shape of warm baths.

When an ointment is employed in the treatment of eczema, you must give full directions as to the manner of applying it. A very small quantity should be melted on the point of the finger, and rubbed firmly into the affected part, and none of it should be allowed to lie undissolved upon the skin, nor, in most instances, should its color be perceptible after its application; the surface should merely have the appearance of having been recently moistened with pure water. The part should always be cleaned with soap and water before reapplying the ointment; for if you smear layer after layer of it upon the skin, it becomes rancid, acts as an irritant, and is calculated rather to be prejudicial than otherwise.

Astringents are of use in some cases of eczema, such as the sulphate of zinc or copper in proportions varying from three to twenty grains in an ounce of rose-water or solution of the diacetate of lead, diluted with distilled water, but I rarely have occasion to use them, and I think you will find them inferior to the remedies previously described.

For the purpose of curing a very mild, or preventing a threatened attack of eczema, or obviating the occurrence of an immediate relapse, the skin may be washed occasionally with soft soap and water. In private practice, you may recommend the use of Hendrie's "Dispensary Petroleum Soap," which is sold at sixpence per cake, and which is one of the most delightfully perfumed soaps with which I am acquainted.

The following case of eczema erythematodes is of value as illustrative of many of the points of treatment to which I have adverted when the eruption covers an extensive surface:—

A gentleman from the West of Scotland, aged about 40, consulted me on November 9, 1861, about an eczematous eruption of great severity and of many weeks' duration. (He had one previous attack, which lasted three years.) The parts affected were the neck, lower part of the abdomen, inner aspects of the thighs, and the arms and legs, especially on the flexor surfaces of the elbows and knees. The eruption was bright red, and presented an erythematous surface, neither vesicles, pustules, nor papules being visible. There was no exudation from the

abdomen or extremities. The skin of the neck, on the other hand, was much infiltrated, and from it serum exuded in abundance. The itching was severe. He was robust, without being corpulent, and, with the exception of the eruption, was in perfectly good health. He was ordered to rub the inflamed parts firmly morning and evening with a piece of flannel dipped in the following mixture:—

R.	Acidi Hydrocyanici, dil.	*m* xl.
	Saponis Viridis,	ʒiss.
	Aquæ,	ʒiij.
	Olei Rosmarini,	ʒj.

Cold water was to be frequently dashed over the parts, five drops of Fowler's solution taken thrice daily after food, and a farinaceous diet recommended.

November 12.—No change. Local application omitted, being too weak. The whole eruption was painted with a solution of potassa fusa, (ʒss. to the ʒj. of water,) which was washed off with cold water whenever the smarting became very severe. This was followed by the exudation of a considerable quantity of serum, especially from the neck. The patient was ordered to repeat this every two or three days, oftener or seldomer according to the severity of the application and the effect produced. The cold shower-bath was to be used twice daily, and the Fowler's solution to be continued.

In a letter, dated November 21, I was informed that the infiltration had quite disappeared from the arms, legs, and abdomen, and only some redness and itching remained. The infiltration, exudation, and itching of neck were much moderated. He was ordered to continue the potassa fusa solution to the neck, and the following mixture was to be rubbed firmly over the other parts night and morning:—

R.	Acidi Hydrocyanici, dil.,	*m* xl.	
	Olei Cadini,	ʒj.	
	Saponis Viridis,	ʒij	
	Olei Rosmarini,	ʒiss.	
	Aquæ, ad.,	ʒv.	M.

The Fowler's solution, which agreed, was to be increased to seven and a-half drops thrice daily. The bowels and kidneys being torpid, a teaspoonful of a powder containing sulphur, magnesia, and bitartrate of potash, was to be taken at bedtime.

On December 6, patient stated:—"Since I last wrote, the complaint spread down the legs to the ankles. I have thus

been affected from the ear to the foot, first and last. The strong application (potassa fusa, ℥ss., aquæ, ℥j.,) checked the inflammation, and no exudation took place." The previous eruption he stated to be rapidly disappearing under the influence of the local applications, although the itching was considerable at times.

On December 30, 1861, only a little roughness and very slight occasional itching of the skin remained. The following ointment was to be applied night and morning:—

℞ Cyanidi Potassi,..... gr. xii.
Unguenti Oxydi Zinci Benzoati.....
Unguenti Citrini, ... āā. ℥j. M.

On January 9, 1862, the patient came to see me. The eruption was gone, and there was only a feeling as if the skin was not so elastic as natural. The local treatment was omitted, the dose of the Fowler's solution diminished to five drops thrice daily, and the purgative powder was only to be taken to relieve constipation.

January 1, 1863.—No return of the eruption. Treatment omitted ten months ago.

There can be no doubt that the local treatment was the most effectual in this case.

When the eczematous eruption occupies a limited extent of surface, it usually requires to be attacked by strong local applications, while it is not, as a rule, so much under the influence of internal medicine as when it covers a large area. In such cases, strong solutions of potassa fusa or chloride of zinc, or even these caustics in the solid form, may be employed locally in the manner and with the precautions previously described, and often with benefit; but you must remember to omit them whenever you have removed the infiltration of the skin.

Cauterization with solid nitrate of silver may sometimes be resorted to instead of the above, or the tincture of iodine painted over the part night and morning, and a poultice of bread and hot water applied about once a-week to remove the red skin which forms a covering to the eruption, and prevents the new layers of iodine from coming in contact with the disease itself. But of all the local means for the removal of limited eczematous eruptions, none are equal to blistering them. This may be done by means of a solution of bichloride of mercury, (℥j. to the oz. j. of alcohol.) the fluid being painted over the eruption, and allowed to dry upon it. The action of the mercurial is, in this case, almost entirely local, and I have never witnessed any effect upon the system at large from its application.

The best blistering agent, however, is the glacial acetum cantharidis,—that is, acetum cantharidis prepared with glacial acetic acid,—the ordinary solution of the Pharmacopœia being too weak. It should be made in small quantities at a time, and kept in good a stoppered bottle, the stopper being removed for as short a time as possible, and, when not in use, covered with leather, otherwise its strength soon diminishes, and much annoyance is thereby occasioned. A little of this solution should be taken up by means of a paint-brush, and painted firmly over the part till it becomes perfectly white. If the fluid is of full strength, and the skin thin, as on the face, it usually blisters it at once; but if the opposite holds, and especially if the head or palms of the hands are to be blistered, it may require to be painted over them for several minutes. After the skin is *thoroughly whitened*, a hot poultice may be applied to make the blister rise. One application is often sufficient to remove the eruption; but, if necessary, it may be repeated weekly, the crust produced by the previous eruption being softened with oil and removed before each reapplication.

A couple of months ago, a gentleman, aged about 35, and otherwise in perfect health, consulted me with regard to an eczematous eruption on the head of twelve years' duration, for which he had been repeatedly shaved, and had consulted many physicians of eminence. Tar had been applied to the scalp systematically for some time, and every conceivable ointment had been used, but without avail. After his hair was removed, I found that the disease corresponded to the form which I described to you under the name of eczema squamosum: it covered the whole head, and, as usually happens in these obstinate cases, was accurately limited to the hairy parts. The scales on the surface were numerous, the itching severe, and, on the crown, front, and sides of the head, the infiltration and redness of the skin was great. I blistered these parts with glacial acetum cantharidis, the fluid requiring to be painted on for some minutes, owing to the thickness of the skin, and ordered the rest of the scalp, which was less severely affected, to be painted with tincture of iodine morning and evening. In a fortnight the iodine was omitted, and when the crusts and scales produced by the iodine and the blistering fluid were removed, the scalp appeared perfectly healthy and without a vestige of the previous eruption. To consolidate the cure, however, tincture of iodine was painted over the whole head night and morning for a fortnight, and, when the red skin was removed, the scalp looked remarkably well, there being not even the

vestige of a scale, which can rarely be said even of the head of a healthy person. No other treatment was resorted to, and the gentleman has since been in America. In the interval his hair grew in greater force than ever, and he is delighted to be rid of his old and indefatigable enemy.

Many cases such as these might be mentioned, but I shall just refer to one more, which many of you had an opportunity of seeing:—A woman, pretty well advanced in years, came to the dispensary a few months ago, to get advice about an eczematous eruption of old standing, which covered the whole of the palmar surface of each hand. She had likewise a tendency to eczema of the leg, which was removed by means of the "tinctura saponis viridis cum pice," a preparation previously referred to. It is of the hands, however, I wish to speak. The eruption here assumed that form which I described to you as eczema rimosum, the fissures being very numerous and deep, and the infiltration of the skin great. Itching was mingled with the pain, but the latter, on account of the fissures predominated. Owing to the pain and stiffness, the hands were kept constantly in a semi-closed position, and she was unable to use them. I blistered each hand with the glacial acetum cantharidis, which had a marvellous effect. The eruption disappeared completely, and the patient returned with joy depicted in her countenance, and opened and closed her hands with perfect facility, not unmingled with pride.

ON THE PREVENTION OF PITTING IN SMALL-POX.

While vaccination is generally regarded as the grand preventive of the disease, and all but universally practiced, it has long been felt that medical men would confer a great boon on society if they could discover some means by which the disfigurement of the face could be prevented. We believe that, by a very simple application, this desirable end has been attained in the clinical wards in the Royal Infirmary: and it is in the hope that when known it may be generally practiced that we at present draw attention to it. The application consists of a solution of india-rubber in chloroform, which is painted over the face (and neck in women,) when the eruption has become fully developed. When the chloroform has evaporated, which it very readily does, there is left a thin elastic film of india-rubber over the face. This the patient feels to be rather comfortable than otherwise, inasmuch as the disagreeable itchi-

ness, so generally complained of, is almost entirely removed, and, what is more important, "pitting," once so common, and even now far from rare, is thoroughly prevented whenever the solution has been applied. It may be as well to state that india-rubber is far from being very soluable in chloroform, so that, in making the solution, the india-rubber must be cut into small pieces, and chloroform added till it is dissolved. The medical gentleman who has introduced this treatment has tried several other substances, but found none so generally useful. For instance, gutta percha was tried. It has the advantage of being very soluable in chloroform, and would have been a very admirable application but for the tendency it has to tear into ribands whenever the mouth is used, or even the features play. India-rubber, on the other hand, is pliable and elastic, allowing free use of the mouth without any danger (as a rule,) of its tearing off. If, however, from some cause or other, a portion is torn off, a fresh application of the solution by means of a large hair pencil remedies the defect, and the mask is once more complete. Several patients who have had this india-rubber mask applied concur in stating that they found it agreeable to wear, and their faces were perfectly free from "pitting," although some other parts of the body, such as the arms, were covered. The credit of this valuable invention and application belongs to Dr. Smart, house physician, clinical wards, Royal Infirmary; and, while he no doubt in the proper quarter will make good his claim to the honor, he will feel amply repaid by its general adoption by his medical brethern, and the consciousness that he has done something to increase the resources of the medical art.—*Scotsman.*

Dr. George writes to the *Morning Post:*—In the year 1833, I published an essay on that disease, recommending the use of prepared calamine, upon the same principle on which Dr. Smart recommends the application of a solution of india-rubber; that is, exclusion of atmospheric air. (Griffith and Ferrarand, St. Paul's Churchyard.) In a very severe case, which occurred in my practice since the publication of my essay, in which the face and throat were frightfully swollen, I dressed one-half of it with calamine powder, and the other half I pencilled over, using a flat hair pencil, with sweet oil and the white of an egg, in equal parts well mixed, three or four times a-day. No solution of india-rubber, or any other substance, would have answered the purpose better; and its application was certainly attended with more comfort than that of the use of the powder; but it is not only the pitting which is prevented by the calamine,

but the rescuing the patient from a state of suffering bordering upon misery; for on the tenth day, or thereabouts, the patient has not a sore place on any part of his body, the time when, according to the usual management, his real sufferings begin. Will you permit me to offer a few practical remarks on the treatment of the disease, which might be useful to the public, and which even a nurse might act upon? Firstly.—From the commencement of the disease I would cover the whole body, face and all, lightly with the calamine, shaken through a common pepper-box; or, if hair powder be employed, the powder-puff had better be used, taking care that these powders do not remain in masses. The inflammation on each pustle is, by these applications, much lessened, a point of great consequence. Secondly.—Sprinkle about one ounce of powdered camphor every, or every two or three nights between the under sheet and blanket, the whole length of the body, putting most about the shoulders and neck. The relief obtained by this, few would credit until they had had experience. Thirdly.—In the advanced stage of the disease, should hardened incrustations have formed, they may be removed, and without much pain, too: for in one case I removed every portion of the cuticle from the whole face, forehead, and even eyelids, applied the calamine, and in a few days the cuticle was reformed without a blemish. —*Braithwaite's Retrospect.*

ON RENNET WINE.

By Dr. GEORGE ELLIS, Dublin.

[The substance ordinarily sold under the name of Pepsine is perfectly inert. It will not coagulate milk, and has no digestive action whatever on animal substances.]

About two years since, failing to obtain any benefit from this new remedy, I had recourse to the direct preparation of a solution of gastric juice from the calf's stomach: and so gratifying has been the result, so satisfactory and remarkable its effects as a remedy in gastric derangements, that I wish to communicate to the profession the mode of preparation which I have found the most convenient and the best for every purpose.

Take the stomach of a calf fresh from the butcher; cut off about three or four inches of the upper or cardiac extremity, which, containing few glandular follicles, may be thrown away. Slit up the stomach longitudinally; wipe it gently with a dry

napkin, taking care to remove as little of the clean mucus as possible. Then cut it into small pieces (the smaller the better,) and put all into a common wine bottle. Fill up the bottle with good sherry, and let it remain corked for three weeks; at the end of this time it is fit for use.

Dose.—One teaspoonful in a wineglassful of water immediately after meals.

Test of Quality.—One teaspoonful will solidify, to the consistency of blanc-mange, in from one to two minutes, a cup of milk (say eight to ten ounces,) at the temperature of 100° Fahr. In this action on the caseine of the milk, it may be said that the wine alone would have some effect, but wine will not solidify milk, nor will it curdle it at all, except at a much higher temperature and in much larger proportion than the above.

This preparation, which I propose to call "Rennet Wine," has many advantages over the watery infusion of rennet which is obtained from the salted and dried calf's stomach, (used largely in cheese making.) The latter is also a good preparation, solidifying milk in the same way while it remains fresh; but it is much more troublesome in the making, and in warm weather it soon begins to react on the animal matters contained in it, and becomes spoiled. For these reasons, it cannot conveniently be used in medical practice. Rennet wine, on the contrary, is so easily made, requiring no salting or drying of the stomach, is so inexpensive, and can so readily be prescribed in private and in hospital practice, that I have little doubt, when known, it will become one of the most valued remedial articles in the hands of the profession.

I recommend the employment of good sherry, because this wine has sufficient body to keep the infusion perfectly sound for any length of time, and is not so strong in alcohol as to suffer any apparent loss of solvent power in taking up the active principle of the rennet.

To the physiologist, it is unnecessary to say, that this remedy should be given after or during, not before, meals. A single dose, given daily after dinner, I have found quite sufficient in the general run of cases requiring it. How this small quantity can act so speedily and effectively it is, perhaps, not easy to explain, when we consider the large supply of the gastric secretion necessary for the thorough digestion of an ordinary meal. The action is, probably, due to those indirect chemical changes, called catalytic transformations, which some organic substances, by their mere presence and contact, induce in each other and in other proximate principles; and thus, perhaps,

the conversion of a small portion of food into healthy albuminose by this small quantity of sound gastric juice may induce the same healthy action throughout the stomach content during the entire process of stomach digestion. It is at least equally difficult to explain the action and rapid extension of ferments, generally, in their appropriate solutions.

I have often been forcibly struck by the magical effect of this small dose in removing offensive odor from the breath of young persons,—a distressing symptom, sometimes aggravated rather than relieved by purgative medicine; and I may also mention, that in one of these cases cod-liver oil was easily tolerated afterwards, though never before. It would be a mistake, however, to suppose that the oil is at all acted on by the gastric fluid. The oil globules of coagulated milk are seen, under the microscope, unchanged, though imbedded in the solidified caseine; and the digestion of oil, taking place only after passing the orifices of the pancreatic and biliary ducts, is entirely intestinal; but intestinal digestion itself must surely be influenced essentially by the healthy preparatory action of the stomach secretion on the albuminous compounds presented to it, and thus the digestion of oils and fatty matters, though not even commenced in the stomach, may be facilitated by their being mingled with the products of healthy gastric action, when submitted to the succeeding operations of the pancreas and liver.—*Medical Times and Gazette.*

IS ALCOHOL FOOD?

By the Editor of the British Medical Journal.

We possess no proof positive of the fact so very generally assumed, that alcohol is a food.

It may be most fairly suggested, until the contrary be shown, that alcohol acts by stimulation of the nervous system, by hastening and assisting the vital functions, the wear and tear of the body, the disintegration of the tissues, and the manufacture of lymph; and that by such disintegration of tissues the wasting body supplies itself with food during the period of sickness,—in fact, lives upon itself. The alcohol, we may argue, is the stimulant and promoter of the disintegration. It is indirectly the cause of the production of food, but assuredly not (*if such be its only action,*) food in itself. Until the contrary

be shown, this, we affirm, is the only fair and legitimate conclusion to be deduced from the premises before us.

Now, if proof could be given that a person existing for some days solely upon an alcoholic-drink regimen gained in weight, or even did not lose in weight, then we should possess strong *prima facie* evidence that alcohol is a food. But when we find that the person who has been kept alive all these days by alcoholic drinks,—*i.e.*, by water *plus* alcohol,—has lost greatly in weight, has become emaciated, has used up his own flesh and blood in the preservation of his life,—in such case, we have assuredly no right to say more of the alcohol than this: that it acted a useful, or even it may be admitted, an essential part, in the struggle for life. We repeat it, we have no proof that, under such conditions, it did more than act as a stimulus.

Hence, then, as it seems to us, the clinical facts which some writers have produced as demonstrative of the food-nature of alcohol are, as such, worth absolutely nothing. The proof here must be rigid,—one of the scale and balance kind. Let us be told what the weight of the patients was *before* the experiment was commenced, and what *after*. Let us know how much water was swallowed with the alcohol; and be satisfied that nothing but diluted alcohols were taken while the experiments were going on,—that rigid abstinence from other things was positively maintained. The analysis of such facts would enable us to arrive at something positive on the subject.

We have no hesitation in saying, that to call alcohol food, in the present state of our knowledge of its effects, is an abuse of language. Those substances only can rightly be called food which are essential for the purposes of life; which form a part of the healthy body; which are capable (under the influence of the organic processes,) of being incorporated, wholly or in part, decomposed or undecomposed, with the body,—assimilated, as physiologists call it. We do not call tonics, which assist the primary digestion in the stomach, food; and if (which we say not,) it be true that alcohol is of use only as aiding, by stimulation, in the secondary digestion,—the disintegration of the tissues,—neither can we call alcohol food. Let it be clearly understood that we do not in this deny that alcohol is a food. What we affirm is, that we possess no particle of satisfactory and scientific evidence to show that it is such. Those who affirm it to be, should give us something like a tangible proof of the fact,—something beyond the mere vague surmises of their own opinions. Let them show that a body fed solely on alcoholic drinks for several days has gained, or at least not

lost in weight; and they will have some facts upon which to found the assertion. But to say that an emaciated creature who rises from his bed of sickness, and has swallowed during his sickness large quantities of water and alcohol, is a living proof that alcohol is food, is manifestly an unfounded assumption. We have, as already stated, just as good, and in truth much better, grounds for saying that the alcohol acts solely by its power in assisting secondary digestion, in aiding the wasting of the body, the wear and tear of it, and thereby producing materials,—lymph,—for the support of the system at a time when disease has arrested the functions of primary digestion, &c.—*British Medical Journal.*

Editorial.

Alcoholic Stimulants as Prophylactics.—In the department of "Selections," for the present number, will be found a letter from James Bryan, M.D., Surgeon of U.S.V. We republish it principally for the purpose of calling attention to his remarks in relation to the efficacy of vegetable acids as preventives of diarrhœa and bowel-affections during the warm season of the year. We have uniformly used these acids, more especially the acetic, freely during the summer months, for the past fifteen years. We take them with food at meal time, very rarely drinking anything whatever between meals. During all that time, though daily undergoing fatigue, and often without rest at night, we have suffered no attack of diarrhœa that lasted over twelve hours. A teaspoonful of good acetic acid vinegar with a little sugar, in a tumblerful of cold water, makes a very palatable drink; giving a pleasant and healthy tone to both the gastric and cutaneous surfaces, and, if taken at meals, promotes digestion. During the heat of summer—when the skin is eliminating an excess of perspiration, holding in solution the acid salts of the blood, a plentiful supply of vegetable acids is necessary to preserve a healthy condition of that fluid. I regret that Dr. Bryan's letter confirms, what indeed we had abundant evidence of before, namely, that large numbers of the

officers of the army, and even of the Medical officers, habitually carry with them and use, alcoholic drinks, especially what they call "good old Bourbon whiskey," as a supposed prophylactic against bowel-affections and malarial diseases. How so many men of science, and of high professional attainments, can still cling to the use of a class of articles, whose effects in depressing the vital properties of the tissues, and retarding a healthy metamorphosis or change of structure in the natural nutrition and disintegration taking place throughout the living system; as demonstrated by every well devised physiological experiment on the subject; by investigations in morbid anatomy; and by abundant observation in social and professional life; is a mystery to all who have not studied closely the force of popular maxims and habits when aided by the fascination of a moderate cerebral exhileration. That the presence of whiskey, or any other alcoholic drink, in the blood will retard the absorption of malaria, or any other poison, by retarding organic or atomic changes, may be true. But the simple postponement in the action of noxious agents thus affected, is very much more than counterbalanced by the general depression of vital power by such interference with the atomic changes, and consequent healthy eliminations. Hence, as Dr. Bryan very truly remarks, when persons using alcoholic drinks are attacked with disease, they are much less easily managed, and their disease much more persistent and dangerous than those affecting persons who entirely discard the use of such drinks. How much longer will the members of the Medical Profession entertain the absurd idea that the *retardation* of *metamorphosis* produced by alcoholic beverages, is equivalent to an increase of healthy nutrition?

Surgeon-General Hammond.—This officer, rendered notorious, if not famous, for his *raid* against calomel and tartar emetic, has been removed from his high position, and ordered to report for duty in the Department of the Gulf, under Gen. Banks. We hope his successor will have common sense, if no other qualification.

Resignation.—Prof. H. H. Childs, of Pittsfield, Mass., one of the principal founders of the Berkshire Medical College, has recently resigned the chair of "Obstetrics and Diseases of Women and Children," in that Institution. Dr. Childs has attained an advanced age, and a deservedly high reputation as a teacher, practitioner, and citizen. He will carry with him, in his retirement, the good wishes of the whole profession.

London Lancet.—This important monthly for September is promptly on our table, filled with its usual complement of interesting and profitable reading.

London Medical Times and Gazette.—By way of Montreal, we have received the June and July numbers of this interesting and important foreign medical journal. Like the *Lancet*, it is filled with original lectures, communications, and practical matter gathered from the societies, hospitals, and medical institutions of the metropolis of Great Britain.

Braithwaite's Retrospect.—The semi-annual volume of this compend of foreign medical literature for July was promptly issued as usual, and will be found as interesting and profitable as any of its predecessors.

The Mechanical Treatment of Angular Curvature of the Spine, or Pott's Disease. By Charles Fayette Taylor, M.D., of New York.

This is a neatly printed pamphlet of 48 pages, containing an essay read before the New York State Medical Society, at its fifty-third annual meeting in 1863. It is a plain, practical, and interesting essay, which will well repay perusal.

Permanganate of Potash as a Disinfectant.—Dr. Ploss, speaks in the highest terms of the disinfecting power of this substance. It effectually removes all smell from the most stinking suppurating sores and discharges. Most remarkable results of this kind have followed its injection, repeated several times a-day, in cases of cancer of the uterus—half a drachm to eight

ounces of distilled water being a good proportion. In the case of open wounds and ulcers, all the dressings covering them should be moistened with the solution. No means succeeds more rapidly than this in removing the disagreeable smell of the hands after the performance of autopsies, for which purpose a stronger solution (℥ss. ad ℥j.) may be employed. It is far superior to chlorine in its effects, which are not, as is the case with that substance, fugitive. For this reason it is a superior prophylactic, applied to the hands of accoucheurs, to chlorine in puerperal fever. In ozœna, it is strongly to be recommended, the solution (℈ss. ad ℥vii.) being introduced into the nares by means of a caoutchouc syphon. In bad smells of the mouth, resulting from carious teeth, it is an admirable means, a little cotton wool being moistened in a weak solution. Finally, the permanganate is to be recommended as a wash for stinking feet. This remedy deeply stains linen it comes in contact with, but the spots may be removed by means of the sulphate of iron.—*American Druggists' Circular.*

Liquor Bismuthi.—Most practitioners, we believe, agree in opinion as to the special value of bismuth in painful affections of the stomach, however much they may differ as to the nature of the pathological conditions giving rise to these very common painful states of the organ. We have hitherto been confined to two preparations,—the trisnitrate and the carbonate. Both these are insoluable powders, bulky and inconvenient, inasmuch as a sufficient dose cannot be made into one or two pills.

Mr. Schacht, of Clifton, has succeeded in preparing a solution of bismuth, which is uniform in composition, stable, miscible with water or other fluids without precipitation, and efficient in small doses. It appears to us a most convenient form for the exhibition of the remedy. This solution is quite transparent, with a slight alkaline reaction; and although it contains only eight grains of oxide of bismuth in an ounce, a fluid drachm for a dose is found to be equivalent to a full dose,—fifteen or twenty grains,—of the insoluable trisnitrate. Mr. Schacht states, that before he ventured to introduce the Liquor Bismuthi to the profession generally, he had its efficacy tested by four years' experience of the practitioners of his neighborhood.

Dr. S. Martyn, Senior Physician to the Bristol General Hospital, says, "For several years past, in prescribing bismuth, I have used almost exclusively the solution made by Mr. Schacht, of Clifton. It has seemed to me to act better than the old forms. I find it allays pain in acute irritability of the stomach

(without nausea or much acidity,) and especially in that which remains after ulceration. In hospital practice, I have observed remarkable ease produced by it when given quite alone,—i. e., simply diluted with water; while it was always more satisfactory to me to use a fluid of agreeable taste than a cumbrous powder, imperfectly suspended, and not of very certain composition."

Mr. Schacht's Liquor Bismuthi is unquestionably an "improved preparation," and will assuredly be adopted by the profession.—*London Lancet.*

The Medical and Surgical History of the War.—Dr. J. Janvier Woodward, of Philadelphia, Assistant-Surgeon U.S. A., is now writing a "Medical History of the War." One volume, which includes Dr. Woodward's experience on the Peninsula with the Army of the Potomac, and his practice in the Surgeon-General's office, up to July, 1862, has been completed. The next volume, which will bring the medical history of the war up to July, 1863, will be completed some time during the coming year. The lithographic plates for this work are now being executed in Philadelphia, and will cost $50,000.

Besides this work, Dr. Woodward has nearly completed a work on "The Camp Fevers of the Army," which will soon be issued. It appears that fevers prevailed to a much greater extent in the Eastern than in the Western armies. Dr. Woodward is the author of the "Hospital Manuel" adopted by the Surgeon-General and used in all the United States Army General Hospitals throughout the country.

The "Surgical History of the War" is being written by Dr. Brinton, Assistant-Surgeon, U.S.A., and will soon be completed up to July, 1862, to correspond with the work of Dr. Woodward. Dr. Brinton's work will be issued in annual volumes. The plates for this work also cost $50,000, and are in progress in Philadelphia.

Action of Solar Rays on Exposed Intestines.—At the meeting of the Academy of Medicine of Paris, on the 16th ult., M. Sappey read a report on a case of severe wound of the abdomen. The patient was a shepherd boy, aged eleven, who was gored by a bull, and to such an extent that the stomach, spleen, and a large portion of the intestines were protruding. Being far from any help, the poor boy lay for two hours with the viscera just mentioned exposed to the action of a boiling sun. Dr. Patry found the patient in this pitiable state: and, by dint of care and perseverance, the boy recovered. His medical attendant seized, however, upon this opportunity to

wateh the meehanism of vomiting, and found that the phenomena sueeeeded eaeh other in the following manner:—Contraetion of the diaphragm,—vermicular contraetion of the stomaeh, eommencing at the pylorus and running from the latter to the eardiac orifice,—foreing of the liquids eontained in the stomaeh towards the œsophageal opening,—energetie eontraetion of the œsophagus,—involution of the stomach at every effort,—dilatation of the cardia under the influenee of the longitudinal fibres of the œsophagus,—finally, filling of the latter eanal by the liquids coming from the stomach, and vomiting.—*Lond. Lancet.*

Chicago Medical College,

Medical Department of Lind University.

The regular Annual Lecture Term in this Institution will commence on the second Monday in October, and continue until the first Tuesday in March following. Clinical Lectures *daily* throughout the term.

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H. A. JOHNSON, M.D., Professor of Physiology and Histology.
J. H. HOLLISTER, M.D., Professor of Materia Medica and Therapeutics.
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EDMUND ANDREWS, M.D., Professor of Principles and Practice of Surgery, and of Military Surgery.
RALPH N. ISHAM, M.D., Professor of Surgical Anatomy and Operations of Surgery.
W. H. BYFORD, M.D., Professor of Obstetrics and Diseases of Women and Children.
N. S. DAVIS, M.D., Professor of Principles and Practice of Medicine, and of Clinical Medicine.
F. MAHLA, Ph. D., Professor of Organic Chemistry and Toxicology.
H. G. SPAFFORD, Professor of Medical Jurisprudence.
J. S. JEWELL, M.D., Demonstrator of Anatomy.

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For the Winter Term, admitting to all the Lectures in the College,	$50.00
Graduation Fee,	20.00
Matriculation Fee,	5.00
Dissecting Ticket,	5.00
Hospital Ticket,	6.00

The Summer Reading and Clinical Term commences on the second Tuesday in March, and continues until the first Tuesday in July; and is free to all matriculated students of the College. Boarding can be had for $2.50 to $3.50 per week. For further information, inquire of

E. ANDREWS, *Sec'y of the Faculty.*

MEDICAL COLLEGE OF OHIO.

SESSION OF 1863,-'64.

The regular Course of Instruction in this Institution will open on Monday, the second day of November, and continue four months. Clinical Lectures will be delivered during the month of October.

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GEO. C. BLACKMAN, M.D., Professor of Surgery and Clinical Surgery.
W. W. DAWSON, M.D., Professor of Anatomy and Physiology.
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CHARLES KEARNS, M.D., Demonstrator of Anatomy.

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Matriculation Ticket, (payable once,)	5.00
Dissecting Ticket,	5.00
Commercial Hospital Ticket,	5.00
St. John's Hospital Ticket,	3.00
Graduation Fee,	25.00

Students have the privilege of taking any number of tickets that may suit their purposes. Boarding can be obtained at $2.50 to 3.00 per week. Students will be aided in procuring boarding houses, by applying at the College, on the south side of Sixth Street, between Vine and Race Streets.

Further information may be obtained by addressing the Dean.

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THE

CHICAGO MEDICAL EXAMINER.

N. S. DAVIS, M.D., Editor.

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Original Contributions.

ARTICLE XXV.

THE REMOTE CAUSE OF SCROFULOUS FORMS OF DISEASE.

By W. BYRD POWELL, M.D., of Covington, Ky.

Mr. Editor:—The very favorable reception of my last contribution, as indicated by the many letters I have received in relation to it, and that too, immediately upon its reception, encourages me to send you another, which has some affinity with the last and, probably, of equal moment.

The ignorance of our profession, of the remote cause of scrofulous forms of disease, has for centuries been denominated the *approbrium medicorum*. But, sir, it can no longer be preferred, because I have discovered it; and that I have, I am just as confident as I am of any other proposition in the profession; and now I submit it to the profession, hoping that it may command the most searching observation. When scrofulous forms of disease are met with, they are, to the extent of my observation, attributed to an hereditary diathesis.

I am entirely certain that not less than ninety-five per centum of our scrofulous forms of disease are entirely independent of any such cause. I grant, however, that the scrofulous diathesis is hereditary, but I am not prepared to admit that it occasionally skips a generation and reappears. I grant, how-

ever, that a generation may escape scrofulous forms of disease, but it is because it escapes adequate cause of excitement: but the diathesis continues to be transmitted as long as it exists, while the certain index of its existence is not generally known. A feeble endowment of the motory centre is, I hold, an invariable index of the scrofulous diathesis; and this centre is in the cerebellum, midway between the mesial line and the mastoid processes, respectively.

Within a recent period, comparatively, considerable has been written in relation to the remote cause of scrofulous forms of disease. Dr. CUMIN, in Cyclopædia of Practical Medicine, article Scrofula, says:—"In considering the causes of a disease so deeply rooted in the constitution, as scrofula is universally acknowledged to be, it is necessary to direct our attention to circumstances very remote in the history of its subjects. The foundation of a scrofulous habit is frequently laid during the fœtal state, by the transmission of that peculiar organization of the frame from parents who themselves possess it." The Dr. was right in going far back in the history of scrofulous subjects to seek the cause, but he did not go back sufficiently far,—he only went back far enough to find a proximate cause, but not the remote one,—he did not find the remote cause of the first case that announced the dawn of civilization. The diathesis must have first been produced before it could have become hereditary.

Again, he says, "a cold and variable climate, like those of Great Britain and Holland, is particularly favorable of scrofula: in proof of which, it is sufficient to adduce the great prevalence of the malady in both of these countries." Concede the verity of this statement, and nothing more is gained than that these countries are well adapted to the development of a scrofulous diathesis into a scrofulous disease,—the cause of the diathesis is still undiscovered. Prof. EBERLE, in his Practice, by MCCLELLAND, p. 754, attributes the scrofulous diathesis to, 1. Climate and atmospheric influences; 2. To impure and confined air of cities; 3. To deficient and unwholesome food; and, 4. To various forms of disease. All these may be very efficient in

exciting into activity a pre-existing diathesis, but we have had no evidence, that can be regarded as satisfactory, that either or all of them can produce the scrofulous diathesis. Scrofula obtains greatly in Virginia, where the climate is genial and one of the best; and the people have always been distinguished for being good and generous livers. Scrofula also abounds in Massachusetts. The climate, it is true, is cold but steady; and no people are, probably, more comfortable livers, generally. Perhaps, no country furnishes more squalid poverty than Ireland, and yet the Irish are less scrofulous than their English neighbors. Scrofula is by no means common to our wild tribes of Indians, and yet they are very little more protected against atmospherical vicissitudes than are the forest animals, and during much of their time they are stinted in food, and the little they have is of the poorest quality. I have known entire families of Indians, women and children, to live through the winter exclusively on bitter acorns. Scrofula is also almost unknown to our frontier people, and very generally they are but poorly fed, clothed, or sheltered. If the scrofulous diathesis obtained with either them or the Indians, scrofula would equally abound, because they are constantly exposed to the most adequate causes of excitement.

Prof. WOOD, in his Practice, Vol. I., p. 114, has taken a more correct view of this subject than has any one else whom I have consulted. After alluding to the usually assigned causes for the scrofulous diathesis, particularly those above-named, he says, "There are many individuals upon whom all those causes may be made to operate, and so intensely too, as even to produce fatal effects, without giving rise to this particular disease. Indeed, it is probable that the great majority of mankind might perish under these circumstances and give no sign of the disease. There is something more, therefore, than mere debility. There is some inherent peculiarity of the organization, generally derived from the parents, which serves as the basis of the disease. The other causes are, in general, merely exciting. They no doubt induce the disease, when it might otherwise never have been developed; but they are, generally, incapable of producing

it, unless in subjects having some innate disposition towards it. In the great majority of fatal cases, the original and essential cause will, probably, be found to be an inherited peculiarity of the organization."

Prof. WOOD has very candidly led us to the inference, that of the cause of the scrofulous diathesis he knows nothing, but entertains the opinion that it is derived from the progenitors. Dr. CUMIN was of the same opinion, with this difference, he thought it was derived from such parents as had themselves the diathesis. Prof. WOOD does not specify any condition of the parents, hence, we are at liberty to infer that it may be derived from such as are normally organic and physiological; and this must be conceded to be the fact before we can reasonably expect to find the remote cause of the first case of scrofula that ever obtained in our race, and this is exceedingly desirable, because that remote cause may still be operating, and, possibly, with more power and frequency than ever before, and that this is the fact I doubt not; and it must be discovered before we can hope to emancipate our race from scrofulous forms of disease.

I am as confident as I am of any physiological truth, that the remote cause of all truly scrofulous forms of disease originates in a physiological incompatibility of progenitors. Dr. CUMIN, in searching for the cause of the scrofulous diathesis, went back to the fœtus; he found a cause, but it was not *the* cause. The cause of the scrofulous diathesis had also a cause, and I have discovered it to be, almost exclusively, civilization. To a very limited extent it is incidental to primitive humanity, in some of its relations, hence, scrofula, to a limited extent, obtains with our primitive people, the Indians. When I discovered it to be a fact, that the most sound and physiological of our respective sexes, in marriage, are frequently so physiologically incompatible as to entail a scrofulous diathesis on their children, the fact, *a priori*, seemed to me to be unreasonable and unphysiological, and, hence, I was greatly perplexed. But having ascertained the fact beyond the possibility of a doubt: I sought its rationale, and have most satisfactorily obtained it.

Ninety-nine per centum of our incompatible marriages are occasioned by the lymphatic and the encephalic temperaments, and a proper understanding of their origin, respectively, most thoroughly illuminates the subject. The lymphatic and the encephalic temperaments obtain only under the influences of civilization, they do not obtain with primitive people. One exception may be cited against me, but it is an error. Some physiologist, name not remembered, represents the Esquimaux people as being lymphatic, and they are primitive. When I saw this statement, I was strongly persuaded that it was an error; and having since obtained five of their crania, I find them to be bilious. They are an obese people; indeed, obesity is an essential condition of animal life in that climate,—a lymphatic person could neither originate nor live there.

I assume wealth to have originated with civilization, because the fact is universally conceded; wealth induces relaxation from toil, and many varieties of personal indulgence, and these enfeeble the physiological energies, and a lymphatic repletion is the consequence. Primitive and frontier people have to be in constant exertion to obtain the means of subsistance and, therefore, not permitted to become lymphatic. About our drinking-saloons and other haunts of idleness, people may be constantly seen who are rapidly becoming lymphatic; and, when this repletion is induced, a lymphatic diathesis becomes entailed. Care, responsibility, and mental activity, generally, are about as exclusively incidental to civilization as wealth is; and, thus, the cerebrum is developed to the neglect of the cerebellum; and, hence, a physiological debility as certainly eventuates as with the lymphatic condition. The constitution thus induced is the encephalic. Any observing physician may witness the constant development of the lymphatic and encephalic temperaments amongst his acquaintances.

The Hollanders are notoriously scrofulous and as notoriously thrifty, and, consequently, the lymphatic and encephalic temperaments are so exceedingly diffused amongst them that I think it very probable that not even one per centum of their marriages is physiological, and, hence, in about the same pro-

portion their people have a scrofulous diathesis; and as their climate is exceedingly favorable to develope the diathesis into scrofulous forms of disease, we can now understand why it is the Hollanders are so scrofulous. The great commercial prosperity of the English people and their climate, are rapidly rendering them as scrofulous as the Hollanders. Indeed, all the prosperous states of Europe are suffering greatly from the scourge of scrofula.

Such has been the extraordinary prosperity of our people for thirty-five years preceding our Civil War that the lymphatic and encephalic temperaments have, in that time, not only been increased but wonderfully disseminated amongst our people. Having been an active observer in this relation for forty years, I know that about which I write. As early as 1830, it was a novelty to see any one who participated in the encephalic temperament, but now it obtains in very nearly a-third of society, particularly in our cities. At the time above mentioned, the number was small who had a lymphatic repletion of the body, but now they are as plenty as blackberries in July: and the result of this great dissemination of the lymphatic encephalic constitutions amongst our people, is, that our physiological marriages are reduced to two-sevenths. Every physician of my age is aware of the fact, that scrofulous forms of disease have astonishingly increased in the preceding thirty years. Idiocy and imbecility are two of the results of incompatible marriage; and before 1830 there was not, I think, in our whole country a single asylum for the care of such children; but now almost every State has such an institution, and some two or more. This is significant. Some aged physicians think that all forms of disease are now less manageable than they were thirty years ago. This, I doubt not, is true, but it has not been because of any essential change in the abstract character of disease, but because the constitution of our people has become more or less depraved by the scrofulous diathesis, and is, therefore, less able than formerly to contend with disease. Physicians are now heard to say, that no skill can cure the children of some people when they become sick. This is true: but whose

children are these? I answer, confidently, they are the strumous apologies for children of incompatible progenitors. Some physicians, in Cincinnati, form their prognosis as soon as they see the parents. If they are compatible, the child can be cured: but, if otherwise, the child will die. All physicians may acquire this ability by the study of my Science of Physiological Marriage, as epitomized in the May and June Nos. of the *Examiner*.

Before the dawn of civilization, man's native instincts were sufficient to guide his matrimonial relations,—as they still are with uncivilized people; but the introduction, by civilization, of two constitutional conditions has placed the marriage relation beyond the pale of his instincts. Civilization has made the discovery of many sciences essential to man in his civilized state, and among them is the new science of physiological marriage; and it must be conceded that it is the most essential science ever announced for the consideration of man; and, if he neglect it, the premature extinction of his race is just as certain as it is that the sun rises in the east and will continue to do so, for the natural laws govern both.

Our Civil War is doing much to mitigate the scourge of scrofula, particularly in the Confederate States, but more particularly for the black population; for, before the Rebellion, slave property was depreciating, because of the prevalence of the scrofulous diathesis. As paradoxical as it may seem, it is nevertheless true, that war, pestilence, and famine are the great conservatives of our race, and, when they shall be no more, our race will soon be no more.

I am strongly inclined to believe that every physician in our country, who has had for a few years a tolerable practice, must remember enough of his observations to incline him to think it probable that the cause of the scrofulous diathesis is physiologically incompatible marriage. Consanguine marriages have been thought to be a source of the scrofulous diathesis; but this opinion I am confident is entitled no more consideration than any other prejudice, for as frequently as I have found consanguine parties to be temperamentally compatible, so fre-

quently have I found their children all right and without any distinction in relation consanguinity. When I find married parties to be temperamentally incompatible, I find the children with a scrofulous diathesis.

In concluding this thesis, I beg leave to cite one case as being illustrative of the science of physiological marriage and also of the remote cause of scrofulous forms of disease:—

A year or so since, one of the most able and distinguished theologians known to the Christian church of this or any other country called on me, introduced himself, and said:—"Are you Prof. POWELL?" I am, sir. "I have learned from some friends that you have made a highly interesting discovery in human physiology, and, as I have always been much interested in human physiology, I have called to get you to explain it to me, as my friends could not do it satisfactorily, provided it will be agreeable to you?" It will afford me pleasure, sir, please be seated. I explained to him the character of the physiological incompatibility that frequently happens between the most sound and physiological parties of our respective sexes in marriage, and the consequences. I found him by the by to be an extensively informed physiologist, and much regret that propriety forbids the promulgation of his name.

Upon the conclusion of my explanation, he said, "Suppose you see one of the parties to a marriage and have a description of the other, can you then infer any thing of their children?" I can, sir, if the description be correct. "Then, sir, I will give you a description of my wife." He described her, and said, "what do you suppose her temperament to be?" Bilious lymphatic, with a considerable predominance of the bilious. "Just so, sir, I think you are right; that has always been my opinion." "What is my temperament?" Sanguine bilious encephalic, with a strong predominance of the sanguine and bilious elements. "Now, if you please, your opinion of our children?" I think, sir, you have had a numerous progeny; that they, respectively, lived to adult age with a fair promise of age and usefulness: but, sir, before the age of thirty years they, respectively, died of phthisis. He sprang to his feet, exclaiming "stop, sir! stop,

sir! stop!" What, sir. "I wish to inform you that consumption was never an heirloom in my ancestry nor in my wife's, for I have the history of both for many generations in Europe." Having had no information in relation to your ancestors, respectively, I assumed your statement as being true when I gave my opinion of your children; nevertheless, sir, I may have erred, but, if I have, it was because of some misapprehension of your respective constitutions; but, not being conscious of any such misapprehension, I have no modification of my opinion to offer; and, if you are as old as I think you are, your children are all dead, and you know the fact and also the affection of which they died. "What has my age to do with it?" Nothing, sir, more than I have stated,—you have been permitted to know all the facts. "But, Professor, I conceive that there is a very formidable difficulty in the way of your opinion." Name it, sir? "I have been a physiological reader all my life, and have thus learned that when both parties to a marriage have good health and sound constitutions, their children will also; this I understand to be a settled doctrine in physiology. What are you to do with all this authority against your opinion? For my wife and I thoroughly fill the conditions; for a more sound and healthy couple than we are, and always have been, do not live in this or any other country." The authority you have named, sir, is not in my way, and as you have been extensively a physiological reader, you must be aware that I am the only one who has taught that the respective sexes of our species, however sound they may be, are frequently so incompatible, constitutionally, as to entail a scrofulous diathesis on their children. It is to such an incompatibility between you and your wife that I attribute your bereavements. "To the extent of my reading, you are the first and only one who has taught this doctrine, and you are a master of it in all its relations."

"I will give you the facts: my wife brought me just one dozen children, and all of them lived to adult age, and some of them married and had children, but, sir, neither of them lived to the age of thirty years,—all died of phthisis, and I am now a childless old man. But, sir, I confess myself actually unable

to comprehend how, on a subject of this kind, you can arrive at such a discriminating precision as you have manifested in relation to my family." To learn that I have investigated this subject sixteen years will, probably, help you. "No, sir, if you had investigated sixteen hundred years the difficulty would not be materially reduced, for it is neither chemistry nor mathematics. I can only regard your decisions as ultimate manifestations of the human mind. That you have made a discovery I cannot doubt, and one too that will astonish all the world. I will not say that it is the greatest discovery ever made, but, sir, it is the most important, because it most directly concerns the perpetuity of our race, which is confessedly the most important interest of humanity. You must prepare yourself for much incredulity, for this discovery will have more to contend with than any other ever had, because the subject has been thought to be the most inscrutable. It seems to me that your discovery of sexual incompatibility reveals another of no less brilliancy, and of which, possibly, you may not have thought. It is this: it reveals the cause of the scrofulous diathesis. As I was confident that such a diathesis was not in either my wife nor myself, I felt confident that I would balk you when you said, my children would die of phthisis, but I was mistaken. I have presented the facts of my family to many eminent physicians in both this country and Europe, but you alone have consistantly explained them; and you have given the only explanation that can be given, I think. The cause of the scrofulous diathesis has engaged the first minds of your profession for more than two thousand years, and that you have discovered it, my own case is as strong proof as can be had."

ARTICLE XXVI.

ERYSIPELAS, DIPHTHERIA, AND SCARLATINA.

By A. FISHER, M.D., of Chicago, Ill.

Sanitary Report read before the Chicago Medical Society, August 4th.

In reporting the sanitary condition of the South Division for the past three months, there is little to say. As far as I can learn, there has been no epidemic nor any unusual amount of disease of any kind. On the contrary, I think the city may now be regarded as uncommonly healthy, with fewer cases of bowel-complaints of children than we generally have at this season of the year, at least I find it so in my practice, and the physicians with whom I have conversed on the subject say, they have not had as many cases of the kind this summer as usual; besides, what few cases I have had have been very easily controlled, without the disposition to relapse, which is so common some seasons. However, within a short time I have had two cases of acute enteritis and one case of acute gastro-enteritis of adult females, which were very severe. The disease was controlled, in all of them, in a few days by cupping and leeching freely, with applications of hot fomentations of hops applied over the stomach and bowels, and continued for two or three days, renewing them as often as they became cold, together with ¼ gr. doses of calomel rubbed up with sugar and given every hour, and continued until the vomiting and great thirst was relieved and the secretions restored. I mention these cases because they are so very rare in my practice that I do not remember of having a well-marked case of the kind before for the past year, and to ascertain whether other members of the Society have met with many such cases this summer or whether they were accidental.

Typhoid fever has not prevailed to any extent during the summer, to my knowledge; and I cannot learn that bilious, remittent, or intermittent fever has been very prevalent, though, as usual, there are cases of the kind. There has been more or

less whooping-cough during the summer, perhaps more than usual, but not of a serious character.

I have not seen or heard of a case of measles this summer, still there may and, probably, have been cases which have not come to my knowledge.

The variola and varioloid which was so prevalent here in the winter and spring has nearly subsided, though I understand there has been quite a number of cases during the summer, and even now a case occasionally occurs, showing that the virus still remains among us. When we find many children, and occasionally an adult, who has not been properly vaccinated, it is not strange that the disease should continue to be propagated in a city like this. The wonder is, that it should ever be eradicated so long as there are so many who have not been protected by vaccination. In my opinion, there should be some way devised that every adult and child, over four or six months old, should in some way be compelled to be properly vaccinated. In that way only can we be sure that the pestilence will be entirely eradicated and kept from the city.

Erysipelas, scarlatina, and diphtheria, which prevailed to some extent last spring, I believe have nearly subsided, although a sporadic case occasionally occurs this summer. In the spring, quite a number of cases of erysipelas occurred in my practice, and among them four very interesting cases in one family, which I intended to report long ago, but as this is my first Sanitary Report, I will give a synopsis of them now, to show the intimate relation between diphtheria, scarlatina, and erysipelas:—

Mr. D.'s family consisted of himself, wife, and two children, one about three and the other about five years old. Whilst I was treating Mrs. D. for diphtheria, in March last, Mr. D. was taken with the same disease. His pulse was frequent and weak; throat badly swollen, with the characteristic ash-colored specks and patches of false membrane; he was very weak and prostrated in a short time after the commencement of the disease. I treated the case with chlorate potassa acidulated with hydrochloric acid, with sul. quinine, tinc. ferri murias, &c. In

about a week the disease subsided, and he began to take nourishment with a relish, when, suddenly, erysipelas commenced on both ears, and spread over the cheeks, but, by penciling it with nitrate of silver, it was so far arrested that it did not spread over the face and forehead, though it continued over the scalp. Prescribed ℥ss. tinc. ferri murias every four hours, and continued it for four or five days, when the inflammation subsided and he began to recover. Then the right side of his face and neck commenced swelling, and continued to increase until the right tonsil, tongue, and adjacent parts were so much swollen that it was with great difficulty that he could swallow. The inflammation was, in its character, diffuse, with infiltration into the cellular tissue, hard and unyielding, without any signs of pointing, either externally or internally. Under the circumstances, I proposed counsel, and Dr. DAVIS was selected; but, just before he arrived, hemorrhage suddenly commenced from the right ear, when they sent for me immediately, and before I saw him, which was not more than ten or fifteen minutes after the commencement of the hemorrhage, he had lost at least a quart of blood, and was apparently sinking in collapse when Dr. DAVIS arrived. The loss of blood prostrated him very much, and did not in the least diminish the swelling.

My treatment had been tinc. ferri murias with chlorate potassa and quinine as a tonic, and, for a few hours before the arrival of Dr. DAVIS, had been trying to give him in addition sulphite soda, but, owing to the great difficulty of swallowing, did not get down much of anything. Dr. DAVIS recommended a perseverance in the remedies as the only hope. He continued in a collapsed condition for about forty-eight hours and died. We could not obtain the privilege of making a *post mortem* examination, which I very much regret.

How to account for the loss of such a quantity of blood in so short a time I cannot imagine. It was arterial blood, and was poured out in a full stream so that it was caught in a wash-bowl. As before stated, it could not have been more than ten or fifteen minutes after he commenced bleeding before I saw him. I im-

mediately plugged the ear with cotton and arrested the hemorrhage, and it did not return. I know of no artery in the internal ear large enough to discharge such a quantity of blood in so short a time, even if it were severed.

Whilst Mr. D. was sick, both of his children were taken at the same time. The one five years old, with a swelled throat; weak and frequent pulse; with stupor. The other, about three years old, with a scarlet rash, covering every part of the surface, with erysipelas of the inferior extremities. Her pulse was frequent; tongue red; and throat sore, without much swelling. As I was leaving the house the next day, after she was taken, I met Dr. HATCH at the door and requested him to diagnose the case. When he first saw her, he said, it was a well-marked case of scarlatina. After exposing her extremities, he said, it was scarlatina complicated with erysipelas. The treatment of these two cases was the same, viz., one drachm of a saturated solution of sulphite of soda every two hours, continued without intermission for five days, with no other remedy. After taking the sulphite of soda for forty-eight hours, the constitutional symptoms in both cases were entirely relieved, and the swelled throat of the oldest began to subside. The rash and erysipelas of the youngest remained the usual time, and was followed by the ordinary disquamation, though her appetite was good; and the constitutional symptoms subsided the third day, and convalescence was rapid and permanent.

We have here four cases of zymotic disease in one family, at the same time, effecting every member of it differently, viz., one with diphtheria alone; one with diphtheria, followed by erysipelas of the face and head, and diffuse inflammation of the side of the neck; one with scarlatina, with erysipelas of the inferior extremities; and the other, in a stupid condition, with a swelled throat.

Now, it is evident to me that all of these cases originated from the same abnormal condition of the blood; for although there was a material difference in the manifestation, appearance, and location of the disease in the different cases, the constitutional symptoms were very much alike,—all showing a depres-

sion of the vital powers, with other symptoms, such as we have in catalytic or blood-poison diseases, which any physician of experience will surely detect.

Whether the poison which causes these various diseases is the same, generating the same morbid condition of the blood in diphtheria, scarlatina, erysipelas, and other zymotic diseases; or whether there is a specific poison for each of those diseases is a question of importance yet to be solved. The pathological condition of the blood in the so-called blood-poison diseases is attracting the attention of pathologists, both in this country and Europe; and I trust the time is not far distant when we shall understand the nature of such cases better, and be able to treat them in a more scientific manner.

Now, who will not say, that these cases, though differently manifested, originated from the same abnormal condition of the blood? I believe it most sincerely, and that the same constitutional treatment would be applicable to all; and were I to meet with such a group of cases again, I would give the sulphites to all of them, beginning early, and continue them with such other remedies as seemed to be indicated for the local disease.

ARTICLE XXVII.

SINGULAR CASE OF ERYSIPELAS.

BY W. H. BYFORD, A.M., M.D., Professor, &c. Chicago Medical College.

The subject of the attack, in this case, was Mr. B., a German, 45 years of age, he is strong and plethoric. He lives in Cincinnati, but was on a visit to his friends in this place. When at home, he occupies a large, well-ventilated house, and lives well, including an habitual, but not intemperate, (in the German sense of the word,) supply of wine and malt liquors. While here, which was but a week or ten days before he was attacked, he occupied a small room with low ceiling in a badly-ventilated house, with two children, his wife, and a servant. In a dietetic point of view, he fared as at home. He is in the habit, for the

last six or eight years, of having a moderate attack of erysipelas once a year. I mention the above facts that they may have due weight in accounting for the singular course pursued by the disease.

He was attacked, June 5th, 1863, with a chill, succeeded by a moderate grade of febrile reaction, which was accompanied with a blush of redness on the middle of the nose. This redness developed into an erysipelatous form of inflammation, sufficiently painful to confine the patient to bed for five or six days. On the 12th, seven days from the beginning, the inflammation had invested the whole head, and the advancing margins met on the occipital region. The skin upon the upper part of the face and forehead had vesicated and was undergoing exfoliation. This process was about completed; the patient had become very comfortable on the 18th, and I took my leave flattering myself that convalescence was almost complete.

Next day, in the afternoon, I was again sent for to see my patient, when I found that a chill and fever, the evening before, had been followed by a recommencement of inflammation on the nose, at the point where the first attack began. The erysipelatous inflammation spread over the same surface, ran its course, and subsided on the 24th. It was not attended with so much distress or fever as the first, but there were febrile reaction, pain, and tumefaction, and the creeping advance of inflammation of erysipelas. When the whole head was surrounded the second time, the inflammation and symptoms subsided, so that, on the 25th, I again took leave of the case, thinking now I was quit of the singular circumstance.

To my astonishment, however, I was called upon to witness a repetition of the same phenomena, which commenced on the morning of the 26th and finished upon the 3d day of July. Thus, my patient had experienced three perfectly developed erysipelatous inflammatory attacks; the inflammation travelling over an extensive surface in a perfect manner each time, in the course of one month, and succeeded each other so closely that they might be considered relapses of the same attack.

The treatment was began, in the first attack, by ordering

four grains of calomel at bedtime, to be followed, in the morning, by citrate of magnesia. Soon as it had operated, the patient was to have twenty drops of the muriated tincture of iron in some water every four hours. He was to have cloths kept constantly wet with apple vinegar on the inflamed part. This treatment was followed steadily for the whole of the first attack; and the tincture was left off only when I ceased my attendance. It was resumed and continued during both of the subsequent attacks, up to the 2d of July. At this time, although there was still some inflammation, I sent him out in the air, and bade him live out door as much as possible, and change his lodgings to a larger and more commodious room. From this time he was convalescent and experienced no further illness, except the annoyance of three or four abscesses under different parts of the scalp, left behind as the effects of the erysipelas. The tincture of iron, acid washes to the inflamed surface, attention to the bowels, and liberal diet constituted the treatment. I have been induced to publish this short sketch of my case from two considerations:—

1st.—In a practice of twenty-five years, during which time I have seen my share of erysipelas, I have, in no instance, known a relapse of erysipelas, that is, an immediate recurrence and prevalence of the inflammation on and over the same surface even once, let alone twice, as in this case; and I have no recollection of reading of an instance of the kind, although I confess not to have examined the subject with special reference to this circumstance; and,

2d.—Because the recurrence took place at a time when the patient might be supposed to be saturated with acid and iron, generally and locally.

I prefer making no comments, leaving my readers to draw their own inferences.

ARTICLE XXVIII.

DENTITION, AND ITS CONNECTION WITH THE BOWEL-AFFECTIONS OF CHILDREN.

By N. S. DAVIS, M.D., Chicago, Ill.

Read to the Chicago Medical Society Sept. 11, 1863.

My object in calling the attention of the Society to a subject so familiar to every member, is to start an influence, if possible, against one of the most prevalent and mischievous popular errors of the day. The error to which I allude consists in attributing to the influence of the first dentition most of the attacks of cholera infantum, diarrhœa, dysentery, etc., that occur in children during every summer. It is well known that the diseases named occur as regular endemics in all the populous towns and cities in this country, during the summer months: that they effect all classes and ages, more or less; but that the two first are much more frequent and severe in children under two years of age than at any other period of life. In this latitude, the attacks of cholera morbus and diarrhœa, in children, usually begin early in July, and continue to increase in frequency throughout that month, although the highest ratio of mortality is in August. Notwithstanding the acknowledged endemic character of these diseases, and the general limitation of their prevalence to the hot months of the year, yet you will find, at least, four cases out of five attributed to "teething." This general assignment of *teething* as the cause of gastric and intestinal derangements, would be of little consequence, were it not for the almost universal neglect of proper treatment in the early stage, which it produces. No incident in practice is more common, during the summer and autumn, than to meet with young children, extremely pale, emaciated almost to the condition of skeletons, and yet having from five to fifteen intestinal evacuations per day, with occasional vomiting. You ask the mother how long the child has been sick? and the answer will generally be: "Oh, its bowels have been out of order all summer: but it has not been, to say, *very sick* until the last week."

You inquire what she has done for the child, and the ready answer will be: "I've done nothing at all, doctor. The child is *teething*, and I thought it would not signify, until the last few days, it has got so weak, I feared it would die." If you push the inquiry further, and ask if she has really let her child go so long with diarrhœa, without giving any medicine or asking any medical advice, she will aeknowledge that she has given it eastor oil or rhubarb, and sometimes even pink and senna. If you ask, why she thought the growth of the teeth caused the sickness, she will either immediately force the little sufferer's emaciated jaws open and triumphantly point you to the teeth that have appeared, and to the gums which are still enlarged by the advancing teeth; or she will say, that she eonsulted Dr. A. or Dr. B., and he told her "*it was the teeth*, and that it would not do to stop the diarrhœa *too soon*."

We think no observing physieian, in aetive practice, ean have failed to notice the very large number of children, especially among the poorer classes, in whom attacks of summer diarrhœa are entirely negleeted until the stage of extreme omaciation and exhaustion has arrived, solely under the idea that such diarrhœa is caused by the growth of the tooth. From direct personal observation, I am satisfied that more than one hundred children, under two years of age, are regularly saerificed in this city by such neglect during every returning summer and autumn. I mean that more than one hundred children die every season, in this eity, from the neglect of the earlier stages of bowel-affeetions; the exeuse for such neglect being that the children were "teething." If this is so, it becomes a very important question, how far the profession is responsible for the existence of the exeuse and its eonsequences? Whether we look into the chapter on the diseases of dentition, eontained in most of our works on practieal medicine, or listen to the answers given to mothers daily by praetitioners, coneorning the ailments of children, we shall easily perceive that the ehief responsibility in this matter rests directly on our profession. Thirty years since, when I was a student of medicine, it was thought to be as necessary to have a gum-lancet in the pocket as medicine in the medicine-case.

But is it true that the simple natural growth of the teeth frequently produces disease or disturbance of function either in the alimentary canal or elsewhere? To answer this question satisfactorily, we must enquire, first, whether there is anything in the structure of the gum or investing membrane of the tooth, or anything pertaining to their physiology, that would give them extensive sympathetic relations with other parts of the system? second, whether direct clinical observation has shown a frequent coincidence between actual irritation of the gums and bowel-affections? and, third, whether such bowel-affections are generally relieved or cured by any kind of treatment applied to the gums?

In relation to the first question, every anatomist knows that the structure of the gums is composed chiefly of elastic fibrous tissue, with only a moderate supply of capillary bloodvessels, and a still more sparing supply of sensitive nerves. In other words, they belong to the class of dense fibrous structures of low sensibility, and, physiologically, designed to bear pressure and, in a measure, protect the bodies of the teeth in mastication. The only nerves which could give them sympathetic relations with other organs are the branches of the fifth pair, by which they are supplied with sensibility, and the recognized diseases of which certainly do not often cause disturbance of the bowels. Facial and maxillary neuralgias are abundantly common at all periods of human life; and well-known irritation of the investing membrane of the teeth is among the common annoyances of all classes, but I have never yet found a case of the kind productive of sympathetic irritation of the bowels or diarrhœa. Hence, I am compelled to believe that there is nothing in either the anatomy or the physiology of the gums or dental periosteum which could explain the frequent occurrence of diarrhœa in infancy.

Does direct clinical observation show the frequent coincidence of irritation of the gums and diarrhœa in young children? To answer this question, we must first determine what constitutes evidence of irritation in the gum during teething. It will not be denied by anyone that the growth of the tooth and the

gradual enlargement of the gum are strictly physiological processes, and not of themselves evidences of irritation; yet nothing is more common than to find simple enlargement alone presented, not only as evidence of irritation, but as a sufficient reason for scarification: and, of course, as a full and satisfactory cause of whatever derangement or disease may be coexisting at the time; and, inasmuch as there is scarcely any period of time, between the ages of six months and two years, that some of the gums in a child's mouth are not enlarged from advancing teeth, it is easy for either mother or physician to find this condition always present to account for each attack or aggravation of disease that may come to pass. In addition to simple enlargement, the next most frequent evidence of irritation is the disposition of the child to press or bite whatever is put into its mouth. Every practitioner is familiar with the common expression of mothers and nurses, in reference to the causes of illness in their children, "we are sure it is their teeth," say they, "for the gums are not only swelled, but the child is constantly putting its fingers in its mouth, and it bites everything it gets between its teeth." It requires but little observation to satisfy any intelligent physician that this disposition to put things into the mouth and press them with the gums is an instinctive habit of all children in the most perfect health; and, instead of indicating the existence of irritation, affords direct proof that no such condition exists. If any member of this Society has had irritation of his gums or of the periosteum of his teeth, the last thing he was willing to do was to bite, even so softly, on the affected parts. If we ask for the ordinary evidences of local irritation, such as heat, redness and tenderness, we shall rarely find any one of them present in the gums in the bowel-affections of children, except in such cases as are accompanied by fever sufficient to render the whole mouth and all other parts hotter than natural, and such as are accompanied by general inflammation of the mucous membrane of the mouth and fauces. For the purpose of gaining reliable information on this subject, I took the trouble to keep a record of fifty cases of diarrhœa in children under two years of age, during the months of July and August.

The record embraced cases in which the diarrhœa had continued from three days to six weeks, and was of almost every grade of severity. In twenty cases, the gums were *paler* than natural, corresponding with the general palor or anæmie condition of the patients, and entirely free from unnatural heat or tenderness. In twenty-four cases, the color of the gums was natural, without any increased heat or tenderness. In six cases, the gums, together with the whole mucous membrane of the mouth, were more red, more hot, and more dry than natural; and, in three of them, there was apthous ulcerations on the inner surface of the lips and cheeks. In all the six cases, there was general febrile action; and no difference could be perceived between the redness and temperature of the gums enlarged by advancing teeth and those where no such enlargement had taken place. The results afforded by this record are in strict accordance with my observations throughout a professional experience of twenty-seven years; and, if we set aside the simple fact of enlargement of the gums and the disposition of the child to bite on them, I am satisfied that the closest scrutiny will fail to find any other evidences of irritation in them, in ninety out of every one hundred cases of ordinary bowel-affections or sumner complaints of children. But there is another idea in relation to the effect of the growth of the teeth during dentition, which is contrary to the well-known laws of physiological growth. I allude to the idea, that, as the tooth advances, the investing membrane and gum becomes stretched or tense over it, and that such tension is the cause of irritation. It should be remembered that the parts investing a growing tooth are themselves also constantly undergoing change by absorption and nutrition, by which they maintain their relation to the enclosed tooth in every stage of its advancement. During the first fifteen years of my practice, I scarified the gums in several hundred cases; but in no one of them did I ever see the edges of the incision, made over the top of the tooth, recede from each other, as though the tissue was stretched or tense. Indeed, there is no more propriety in supposing the parts investing a tooth are put upon the stretch by its growth, than that the

pericranium and scalp become tense by the growth of the skull.

Does the result of treatment directed to the gums, during the progress of dentition, afford evidence that they are the seat of irritation? In answer to this inquiry, I will simply state the results of my own observations:—When I commenced the practice of medicine, little more than twenty-seven years since, a gum-lancet in the pocket of the practitioner was deemed as necessary as medicine in his saddle-bags; and on almost all occasions of any kind of sickness in young children, if any of the gums were found enlarged simply, it was deemed proper to incise the gums. Consequently, during the first fifteen years of my practice I scarified the gums of children in a large number and variety of cases. During the last ten or twelve years, I have applied the knife to the gums in comparatively very few cases, but have met with many in which the operation had been performed by others. With all these opportunities for observation, I must say, that I have never seen a case of diarrhœa, dysentery, or cholera morbus relieved, in any degree, by any amount of incising or scarifying of the gums alone. Many cases have occurred in which the gums have been cut, and ordinary internal treatment directed at the same time, with speedy relief to the patient; but abundant trials have shown that the same internal treatment, without touching the gums, has been followed by the same results; while not a single instance of the reverse has come under my observation.

It is only a few days since that my attention was called to a child ten months old, pale, anæmic, emaciated almost to a skeleton from diarrhœa, which had continued since the middle of July. Its gums had been scarified four times by a physician in the neighborhood; and he was only deterred from making a fifth trial of the same remedy by the refusal of the mother, on the ground that the previous trials of it had done no good. We thus see that the extremely prevalent idea, that the first dentition *is the cause* of bowel-affections in young children, is not supported either by the anatomy and physiology of the gums and teeth, or by clinical observations at the bedside, or by the results of treatment. Indeed, when we remember that these

affections are limited in their prevalence almost exclusively to the hot months of the year, and to certain geographical limits, we wonder how the idea, that the growth of the teeth acts any prominent part as a cause, could have gained even a respectable degree of credit; for, surely children cut their teeth as often in winter as in summer, in the country as in the city, and as often in one part of the globe as an other.

The remainder of the article relating to the real causes and pathology of the bowel-affections of children, and a glance at the general principles of treatment will be given in the next number of the *Examiner*.

ARTICLE XXIX.

EXPERIMENTS WITH SULPHITE OF LIME AS AN ANTISEPTIC.

By E. ANDREWS, M.D., Professor of Surgery in Chicago Medical College.

M. Polli, of Milan, Italy, made a large number of experiments upon dogs, tending to show great antiseptic powers in the sulphites. Analogous to this quality is their well-known power of arresting fermentation in cider and other liquors. M. Polli, in one of his experiments, took two dogs, to one of whom he gave a quantity of the sulphites and to the other none. After some hours, both were killed and laid aside. He reports that the carcase of the dog which took nothing readily putrified, while that of the one which took the sulphite remained a long time perfectly fresh. During the hot weather of August, it occurred to me to try the experiment of the direct application of the sulphites to animal matters, thinking that if successful in preserving them from putrifaction, they would be an excellent application to suppurating wounds, and would prevent the formation of the septic poison of erysipelas.

I accordingly took four ounces of fresh beef, and cut it into two equal parts. Each fragment was placed in a wide vial, containing water enough to cover the beef. Into one of them

I dropped a drachm of sulphite of lime and shook up the bottle. The other contained only the beef and water. The two were placed on a shelf and left open. At the end of forty-eight hours, both were putrid and very offensive; and, so far as I could determine, there was no ground of choice between the odors of the two vials. This would seem to prove that sulphite of lime has no power of preserving animal substances, when applied to them directly. It, probably, requires the presence of an acid to combine with the lime and liberate free sulphurous acid to make it active. The acids of the stomach might serve this purpose, when given internally.

My object in selecting the sulphite of lime in preference to that of soda was, because the former, being insoluble, could be applied to a wound or ulcer without producing smarting. Notwithstanding the failure of the meat experiment, I tried the article externally in two cases where I had operated for the removal of necrosed bone. I mixed the sulphite of lime with clear water, and injected it freely into the wounds several times a-day for about ten days. The cases both did extremely well; but, as I took great care of them in every other respect, I am not able to say whether the local use of the sulphite was entitled to any credit.

Selections.

LECTURE ON ECZEMA,

INCLUDING ITS IMPETIGINOUS, LICHENOUS, AND PRURIGINOUS VARIETIES.

DELIVERED AT THE

DISPENSARY FOR SKIN DISEASES, GLASGOW, SCOTLAND.

By T. McCALL ANDERSON, M.D., F.F.P.S., Physician to the Dispensary for Skin Diseases; Physician to the Deaf and Dumb Institution, etc.

Reprinted from the "Medical Times and Gazette."

Gentlemen:—From the treatment of eczematous eruptions occurring in limited patches, I pass naturally to the consideration of the last division of the subject, the

Local Varieties of Eczema, and I trust you will bear in mind

that the remarks I am about to make are to be taken in connexion with what I have already said, as much needless repetition may thus be avoided.

While eczema may be observed upon any part of the cutaneous envelope, and indeed may affect almost the whole of it at one time, there are certain localities which it seizes upon in preference to others, and to which it is often limited. These are the head, hairy portions of the face, lips, edges of the eyelids, nostrils, external auditory passages and ears, hands, feet, legs, genitals, anus, umbilicus, and those parts of the skin which are naturally in contact with one another.

Eczema of the Head (eczema capitis, impetigo capitis) occurs most frequently in the pustular form, especially in the case of children, whose heads are attacked with remarkable frequency. When this part is affected, the eruption has a tendency to chronicity, particularly if the treatment is not energetically and thoroughly carried into effect. For it is more difficult to keep the surface clean than when the non-hairy parts are invaded, owing to the hairs being glued together by the exudation, and to the crusts being entangled in them and difficult of removal. For this reason, the patient often allows them to remain for weeks, months, nay, even years upon the head, and, when advice is at last obtained, the whole scalp is not unfrequently found to be concealed from view. In this way, collections of pus are often formed between the crusts and the scalp, owing to confinement of successive exudations, which do infinite harm. Besides, when hard crusts are allowed to remain on the head for a lengthened period of time, they press upon the hair follicles, and lead to their obliteration, whereas, when the eruption is properly treated from the first, there should be no permanent loss of hair. When the disease is neglected in the manner just indicated, the exudation becomes decomposed, lice are attracted to the part, and are often detected, wallowing in the mire, in thousands, while their nits (eggs) adhere, by means of sheaths, with great tenacity to the hairs, and in countless numbers. But while lice often occur as complications of an eczematous eruption, you must be alive to the fact, that these insects sometimes attack the head of a healthy person, in whom they excite a sensation of itching. This causes the patient to scratch the head, and an eczematous eruption may thereby be induced. The lice on the head are thus the exciting cause of eczema in some cases, its result in others.

Little sub-cutaneous abscesses are often met with on the head in addition to the collections of matter between the scalp and

the crusts, and enlargement of the neighboring glands, especially those on the back of the neck and over the mastoid processes, occur in all aggravated chronic cases. These enlargements are due to the irritation set up by the adjacent eruption, and must on no account be looked upon as indicative of a strumous taint, though, of course, a smaller amount of irritation is capable of causing their enlargement in scrofulous children.

The *diagnosis* of eczema capitis is sometimes difficult to the unaccustomed eye, and I have accordingly arranged in a tabular form the points to be attended to as distinguishing it from syphilitic eczema capitis, seborrhœa capitis, psoriasis capitis, and herpes tonsurans.

Table showing the Points which distinguish Eczema Capitis from Syphilitic Eczema Capitis, Seborrhœa Capitis, Psoriasis Capitis, and Herpes Tonsurans:—

Eczema Capitis.	Syphilitic Eczema Capitis.
(1.) Occurs oftenest in children.	(1.) Occurs usually in adults.
(2.) Often attacks the whole scalp.	(2.) Usually occurs in small patches.
(3.) Exhibits superficial ulcers only.	(3.) Exhibits deep ulcers, with perpendicular edges and unhealthy bases.
(4.) Occurs in persons in whom there is no history of primary syphilis, except as a coincidence.	(4.) Occurs in persons in whom there is a history of primary syphilis.
(5.) Does not occur in connexion with symptoms of syphilis, except as a coincidence.	(5.) Occurs in connexion with other signs of syphilis, *e.g.*, alopecia, sore throat, other syphilitic eruptions on the skin, glandular enlargements, rheumatic pains, etc.

For further particulars, see the general diagnosis of eczema from syphilitic eruptions.

Eczema Capitis.	Seborrhœa Capitis.
(1.) Exhibits crusts, which are brittle, are often very thick, and are composed of pus, granular matter, and epithelium.	(1.) Exhibits crusts, which can be kneaded into a ball, are usually thin, have an oily feel, and are composed principally of sebaceous matter and epithelium.

(2.) Is excessively itchy, and after removing the crusts, the scalp is infiltrated, red, often excoriated, and exudes serum or pus.

Eczema Capitis.

(1.) Occurs oftenest in those whose health is deteriorated, or who are scrofulous.

(2.) Is usually very itchy.

(3.) Exhibits exudation on the surface of the skin.

(4.) Exhibits thick yellowish, usually moist crusts.

(5.) Occurs often in connexion with eczema of other parts, as of the ears, etc.

Eczema Capitis.

(1.) Patches not circular unless the hair has been cut short in a circular manner with scissors.

(2.) Hairs healthy, (though they may fall out here and there,) and exhibit no parasite.

(3.) Itching usually excessive.

(4.) Eczematous eruptions often on no other part of the body.

(5.) Not contagious.

(2.) Is not excessively itchy, and, after removing the crusts, the scalp is not infiltrated, red, or excoriated, exudes neither serum or pus, but is smooth and oily.

Psoriasis Capitis.

(1.) Occurs oftenest in those who are apparently in perfect health, and rarely, if ever, in those who are scrofulous.

(2.) Is usually not very itchy.

(3.) Is a perfectly dry eruption.

(4.) Exhibits usually thin, white, dry scales.

(5.) Occurs almost invariably in connexion with psoriasis of other parts, especially of elbows and knees, where the diagnois is easy.

Herpes Tonsurans (Ringworm of the Head).

(1.) Patches circular.

(2.) Hairs brittle, twisted, broken off close to the scalp, loaded with the parasite (tricophyton tonsurans).

(3.) Itching not usually severe.

(4.) Herpes circinatus (ringworm of the body) often on the body.

(5.) Contagious, especially to children, and often other members of the family exhibit ringworm of the head or body.

But cases are often met with in which ringworn of the head is complicated with eczema of the head. The eczematous eruption is then the more prominent of the two, and the ring-

worm is often overlooked. In these cases, the diagnosis is arrived at by detecting some of the brittle, broken, or twisted hairs loaded with the parasite. It is, therefore, well, in every case of eczema, to examine the hairs carefully, with the eye at least. The history of the case, the way the eruption commenced, (in circular dry patches,) and the signs of the contagious nature of ringworm, assist the diagnosis. The following case is a good example of the complication of ringworm of the head with eczema:—

Richard R., aged 8, was admitted at the Dispensary for Skin Diseases, November 25, 1861. Almost the whole of his head was covered with a thick, yellowish, eczematous crusts, and the backs of his ears were infiltrated, exuding, and itching. Little patches of alopecia existed on the scalp, and on examining the head attentively, little fragments of hairs were detected here and there, which were brittle, broke on attempting to extract them entire, and were loaded with the spores of the tricophyton tonsurans. The disease commenced as a small circular patch on the crown of the head, having, according to the statements of the mother of the patient, all the characters of ringworm.

Mr. Jabez Hogg, who professes to find parasitic growths in all skin diseases, would, probably, have made use of this case in support of his views, had it come under his observation, whereas a careful examination, and an inquiry in the history of the case, showed it to be a case of ringworm, complicated, in its later stages, with eczema.

Alopecia areata (circular patches) of baldness ought never to be mistaken for eczema of the head, and the disease only requires to be kept in view in order to prevent an error in diagnosis. *Favus* is, however, often difficult of distinction from eczema capitis. In cases of favus, "where the head is more or less covered with an eruption exhaling the odor of mice, and consisting of bright yellow dry crusts, depressed in the centre, through the middle of each of which one or more hairs pass, which have a dull, dry appearance, and are more easily extracted than natural, the diagnosis is very easy, and those who have seen the disease once can never mistake it. When it has continued for a length of time, when the crusts have lost their cup-shaped form and their bright yellow color, and have become entangled in the hair; when, in fact, we have to do with the variety described as favus squarrosa, it may be, —and often is—mistaken for impetigo of the scalp. But in the former there are generally patches of alopecia which are

wanting in the latter. In it certainly the hairs often fall out, although only here and there, and not in patches as in favus. The alopecia of favus is permanent, that of impetigo generally temporary. There is also no alteration of the hairs in the latter; in the former they are dull, dry, discolored, and easily extracted. Attention to these points generally serves to clear up the diagnosis; but, if doubt still exists, it may at once be removed by the microscopic examination of the crusts. There is one point, however, which requires to be borne in mind, namely, that the discovery of some pustules does not prove that the disease is impetigo, as pustules are frequently developed in cases of favus from the irritation of the parasite. And also one should not lay too great stress on the value, in a diagnostic point of view, of the odor exhaled from the eruption, as this symptom is not so pathognomic as some dermatologists would have us to suppose.

"Very often the diagnosis is rendered difficult on account of a propensity of parents to clean carefully, and remove all the crusts from the head before bringing their children for advice. There is then to be seen redness of the scalp combined with the presence of a few pustules, the results of irritation, and here again the disease resembles impetigo. But if it is a case of favus which we have before us, the deep red, depressed, distinctly circumscribed surface, covered by a thin, shining epidermis, is quite different from the light-colored, diffused redness of impetigo. If this is not sufficient, the hairs should be examined, when they will be found to be altered, and the parasite is detected in them with the microscope. If this is not satisfactory, do not give an opinion or resort to any treatment, but desire the patient to return in a couple of weeks, leaving the head untouched in the *interim*, after which time the disease will have had time to re-develope itself, and its nature is at once discovered.*

In the *treatment* of eczema of the head, the removal of the crusts is often difficult, and the remedial applications cannot be so thoroughly applied to the diseased surface. If the eruption is at all extensive or severe, and if it occurs in children, I am in the habit of ordering the hair to be cut as short as possible, and I always insist upon this, if, as happens too often, particularly amongst the poor, the disease is complicated with lice. The crusts can then be separated with greater facility, and the morbid surface more fully exposed to view. In adults,

* "The Parasitic Affections of the Skin," by T. McCall Anderson, M.D. London: Churchill & Sons. 1861.

and especially in females, the removal of the hair must often be dispensed with, and the cure is, consequently much retarded.

It is only in chronic cases, occurring in adults, and rebellious to milder treatment, that shaving of the head and the application of iodine and blisters (see Lecture in Sept. No.,) is to be recommended; for, in the ordinary run of cases, the milder treatment, before fully discussed, is usually effectual. In very obstinate chronic cases, which resist both internal and external remedies, although very few indeed do not yield to blisters, epilation may be tried, though this is rarely necessary.† If epilation is recommended, and you must remember that it is only to be carried into effect as a "*dernier resort*," you should at the same time use a lotion of bichloride of mercury, or one of the mercurial ointments previously referred to. (See Lecture in Sept. No.)

Eczema of the Hairy Portions of the Face (Eczema pilare faciei), is an exceedingly common, and a very annoying affection, owing to the disfigurement which it occasions, the burning heat which accompanies it, and the difficulty and pain of shaving. The only word in English dermatological works which is intended to denote it, is "impetigo menti," but the disease is by no means confined to the chin, so that this name is a too restricted one. I have, therefore, called it "Eczema pilare faciei," which is more correct, though, perhaps, not so euphonious.

The eruption commences by the formation of pustules, each of which is situated at the orifice of a hair follicle; for you will notice that a hair passes through the centre of each pustule. It is curious, though true, that eczema almost always assumes the pustular form in this situation in adult males,—an observation which coincides with what I told you before, that the pustular form of eczema (impetigo) is much more frequently observed on hairy parts of the body.

These pustules dry up into small yellow crusts, which are difficult of removal, owing to their adhesion to the hairs as well as to the skin. When many pustules form at the orifices of neighboring follicles, they have a tendency to run together, and, on drying up, large irregular yellow crusts are left. If these are not removed, successive exudations on the surface of the skin are confined by them, and lead to excoriations, and, owing to their continued pressure, to obliteration of the hair follicles, and permanent alopecia of the affected parts. The

† For the mode of extracting the hairs, see my work on the "Parasitic Affections of the Skin," p. 31. London: Churchill & Sons. 1861.

skin on which the pustules are developed assumes a dusky red tint, and becomes gradually more and more thickened and infiltrated. The patient sometimes complains of itching, oftener of pain or burning heat,—a sensation which is principally experienced during the formation of a crop of pustules. The disease is often kept up for months or even years, owing to the occurrence of successive crops of pustules.

The causes which specially operate in the production of this form of eczema are, irritating discharges from the nose and mouth, and the irritation of the razor, especially when that instrument is blunt. Indeed, the disease not unfrequently disappears spontaneously when the causes are no longer in operation, unless the predisposition to eczema is very strong, or the eruption has lasted a long time.

The diseases with which it may be confounded are acne sycosiformis and sycosis parisitica. In *acne sycosiformis* the eruption partakes more of the tubercular than of the pustular form, and the eruption of acne is detected on the non-hairy parts of the face, and often also between the shoulders and on the front of the chest. Indeed, acne sycosiformis (so named from the resemblance of the eruption to sycosis parasitica,) is merely acne indurata implicating the hairy instead of the non-hairy parts of the face. Strictly speaking, the form of eczema at present under consideration has nearly as much right to be ranked with acne as with eczema, in which case, acne sycosiformis would be regarded as an advanced stage of eczema of the hairy parts of the face. The treatment of the two affections is nearly the same, so that it unnecessary to insist further upon the diagnosis.

The disease which is oftenest confounded with this form of eczema is sycosis parasitica, although the differences are generally very marked. These are well shown in the following table:

Eczema Pilaris Faciei.	Sycosis Parasitica (Ringworm of the Beard).
(1.) Very common in this country.	(1.) Very rare in this country.
(2.) A pustular disease only.	(2.) Pustules, tubercles, and large fleshy indurations detected when disease fully established.
(3.) No trace of herpes circinatus either on the affected parts or in other localities.	(3.) Rings of herpes circinatus (ringworm of body) detected amongst the hairs.

	and often round the front of the neck, or on the wrists, arms, or other parts of the body.
(4.) Not contagious.	(4.) Contagious, and often history of contagion.
(5.) Hairs healthy and adhere firmly, so that epilation causes pain, unless much suppuration has occurred at their roots.	(5.) Hairs brittle, broken, and twisted; have lost their natural glistening appearance, and can be extracted with perfect ease and without pain.
(6.) No parasite to be detected.	(6.) Fungus (tricophyton tonsurans) detected in the hairs and scales.

In the cure of this form of eczema, if the means already indicated fail, the patient should be directed to stop shaving, or, if he has a beard, the hair should be cut short. All the hairs proceeding from the affected parts should then be extracted, after which a stimulating and alterative ointment, such as citrine ointment, should be rubbed firmly over the morbid surface night and morning. This treatment often acts like a charm, and I have cured many old standing cases in a couple of weeks by means of it. While it sometimes fails to effect a complete cure, it is always, as far as my experience goes, productive of temporary benefit. After the parts have been once epilated, if new pustules appear, the hair passing through the middle of each must at once be extracted, and the use of the ointment continued.

The following case, and I could cite many such, illustrates the benefit of this mode of treatment. I have selected it because it shows the value of epilation as compared with other treatment:—

Mr. M., aged about 35, consulted me on April 24, 1861, with regard to an eruption on the upper lip, immediately beneath the nostrils. The patch was about an inch square, the skin red and infiltrated, and numerous pustules and yellow crusts were situated at the orifices of the hair follicles. The disease was kept up by the formation of successive crops of pustules. He stated that he had frequently discharge from the nostrils, which he thought irritated the skin of the upper lip. He had been taking Donovan's solution for some time when I saw him, and he said with benefit, and it was, therefore, continued.

A week afterwards, the eruption being in no way altered, Fowler's solution, at first in ten, later in fifteen-drop doses

(thrice daily), was administered for some weeks, and an ointment of two drachms of citrine ointment, mixed with six of linimentum calcis, was rubbed firmly into the roots of the hairs night and morning. The arsenic, in one form or another, having been continued for a couple of months, and pushed till it produced derangement of the digestion, and no benefit accruing from its employment, was omitted, and the morbid surface was touched gently with solid potassa fusa after the removal of the crusts.

A week afterwards, (May 21, 1861,) great improvement was observed. The infiltration and redness of the skin were much less, but still a few pustules continued to form at the edges of the patch.

I now lost sight of the patient till January 23, 1862, when I found the eruption pretty much in the same state as when I first saw him, it having never disappeared entirely. I at once removed the crusts, extracted all the hairs, and ordered citrine ointment to be used night and morning.

Four days later, (January 27, 1862,) the infiltration and redness of the skin were nearly gone, and no new pustules had appeared. He was ordered to continue the use of the ointment a little longer, and, if any new pustules appeared, to pull out the hairs which proceeded through the centres of them.

About two months after this, (March 21,) I saw this gentleman by accident, when he informed me that, since the epilation, the disease had never reappeared, and I could discover no trace of the previous eruption. He wore a magnificent moustache.—epilation, as most of you are aware, having the effect of making the hair grow more luxuriantly than ever, owing to the stimulus which that operation gives to the circulation of the part.

Those of you who are alive to the benefits of a luxurious pair of whiskers, and who have not yet succeeded in the attainment of your wishes, may, perhaps, be inclined to draw a practical lesson from the results of epilation in the case of the gentleman just alluded to.

Eczema of the Lips (eczema labiorum) is by no means of rare occurrence, and may coincide with a similar eruption on other parts, though the former are often affected alone. The eruption may be confined to one lip, or both may be implicated, and they may be the seat of any of the forms of eczema previously described. They are often greatly swelled, the serum being diffused through the cellular tissue, the meshes of which are very loose. The oral aperture is often spasmodically

contracted, especially if fissures complicate the eruption, as they often do, particularly at the angles of the mouth and the centre of the lower lip.

Hebra has observed eczema of the lips to be frequently associated with eczema of the anus, and he once had a patient who was affected alternately with eczema of the anus and lips.

The two diseases which are most apt to be mistaken for eczema of the lips are, herpes labialis and syphilitic eruptions on these parts. But you will be little likely to fall into error if you remember the points to which I referred in speaking of the diagnosis of eczema in general. There is just one additional circumstance, however, with which you should be familiar in connexion with syphilitic affections of the lips, namely, that the eruption rarely affects the whole of even one lip, but has a marked tendency to concentrate itself at the angles of the mouth, where it is often obstinate till the patient is brought under the influence of mercury, when it, "vanquished, quits the field."

You must be careful in the use of strong solutions of poisonous preparations, such as those of corrosive sublimate, in the treatment of this affection, for it is quite possible for the patient to swallow a sufficiency of the mixture to induce serious symptoms. I have nothing to add with regard to treatment further than to refer you particularly to my remarks upon the means adopted for the removal of limited eczematous eruptions.

The following case of eczema of the lips is a good illustration of the eruption in question:—

"A gentleman, aged about 35, consulted me on April 15, 1861, about an eruption of eczema attacking both lips, and for the second time. A small infiltrated exuding and itching patch existed on the right cheek, near the angle of the mouth, and occasionally vesicles were detected on it. The lips were slightly infiltrated, thickened, red, and itching; the epithelium was constantly peeling off them, so that they were very rough, and sometimes a little serous fluid exuded, while fissures had formed here and there, but particularly at the angles of the mouth. His general health was excellent. Fowler's and Donovan's solutions were successively administered without effect, and the disease was finally and rapidly cured by applying "aqua potassa" to the parts night and morning, and washing them frequently with cold water."

Eczema of the edges of the Eyelids (*Eczema tarsi, Ophthalmia tarsi, Tinea ciliorum,*) is exceedingly common, especially in scrofulous children, and in them often associated with con-

junctivitis and strumous ophthalmia. The affection is neither more nor less than a pustular eczema (impetigo), attacking the edges of the lids, although is does not seem to be generally recognized as such by ophthalmic surgeons; for it commences by the formation of pustules at the orifices of the hair-follicles, which concrete into scabs, beneath which small ulcers are detected, and, when the disease is fully developed, the usual symptoms of eczema, itching, infiltration, exudation, etc., are observed. The exudation from the morbid surface, mingled with the altered secretion from the Meibomian follicles, glues the edges of the eyelids together, especially at night, unless proper precautions are taken. Lachrymation is likewise a common symptom, and the tears, falling on the cheek, not unfrequently irritate the skin, and give rise to an eczematous eruption.

If improperly treated or neglected, as occurs too often, the pressure of the crusts, the confinement of the discharge, and the formation and extension of ulcers, lead ultimately to obliteration of the Meibomian glands and hair-follicles, after which, a perfect cure is of course impossible. Amongst the train of evils may also be mentioned eversion or inversion of the lids, and, if the eyelashes are not gone, owing to obliteration of their follicles, the hairs are apt to assume abnormal directions.

With regard to the local treatment, (for the constitutional, see the treatment of eczema generally), the extraction of the eyelashes is always followed by improvement. This operation is far too often omitted, for, in my opinion, it should be uniformly carried into effect in bad cases, and repeated if new pustules form at the orifices of the follicles, exactly in the same way as in the treatment of eczema of hairy parts of the face. (See treatment of eczema of hairy portions of face.) In addition to this, if the parts are much infiltrated, I am in the habit, after the removal of all crusts, of applying a solution of potassa fusa (usually a solution of ten grains in an ounce of water,) to the edges of the lids, an operation which should not be entrusted to the patient, at first at all events. A small brush must be used, and very little of the solution taken up by it, so as to make it moist, but no more. The eyelid must then be carefully dried, else the application spreads, everted so as to remove it from the eyeball, and the solution painted along its edge. A large brush soaked in cold water should be in readiness to stop the action when desired. This application may be repeated every day till the infiltration, exudation, and itching subside, after which citrine ointment may be relied upon for completing

the cure. In slight cases, you will often find the eruption yield to the use of citrine ointment alone, coupled with cleanliness. During the treatment of eczema tarsi, a little ointment (diluted citrine ointment, for example,) should be applied to the edges of the lids at night, so as to prevent their adhesion, but it must always be washed off in the morning. If, notwithstanding the anointing of the lids at night, they are adherent in the morning, you must on no account tear them asunder, but must previously soften the agglutinated matter. Towards this end you cannot go wrong if you follow the instructions of Mackenzie:—"A teaspoonful of milk, with a bit of fresh butter melted in it, may be employed for smearing the lids, rubbing it with the finger gently along the agglutinated eyelashes. A piece of soft sponge, wrung out of hot water, is then to be held upon the eyelids for some minutes, after which the patient will find the eyelids yield without pain to the least effort he makes to open them. With the finger-nail the whole of the matter is immediately to be removed."*

If there is any inflammation of the conjunctiva, Mackenzie's excellent wash of the bichloride of mercury may be used with advantage, and is often sufficient when the conjunctivitis is slight.

R.	Hydrargyri Bichloridi,.....	gr. j.
	Hydrochloratis Ammoniæ,.....	gr. vj.
	Cocci Cacti,.....	gr. jss.
	Alcoholis,.....	ʒj.

Tere simul, adde aquæ uncias sex, et cola per chartam.

Sigua.—Pour out half a tablespoonful of this fluid, and mix it with as much boiling water in a teacup previously warmed. With a piece of old linen or soft sponge bathe the eyelids with the mixture for a few minutes, and then, by leaning back the head, allow a little of it to flow in upon the eye. Repeat this thrice daily.

For the treatment of a more severe attack, as well as for that of the other complications of eczema tarsi, such as ectropium, entropium, trichiasis, ophthalmia scrofulosa, etc., I must refer you to special works on ophthalmic surgery.

* "A Practical Treatise on the Diseases of the Eye," by W. Mackenzie, M.D. Fourth Edition, p. 145. London: Longman, Brown, Green, and Longmans.

LECTURE ON CERTAIN DISORDERS OF THE BRAIN AND NERVOUS SYSTEM,

WITH SPECIAL REFERENCE TO THE CHANGES IN OPINION AND PRACTICE WHICH RESULT FROM RECENT RESEARCHES IN PHYSIOLOGY & PATHOLOGY.

DELIVERED AT THE

ROYAL COLLEGE OF PHYSICIANS.

By CHARLES BLAND RADCLIFF, M.D., Fellow of the Royal College of Physicians, Physician to Westminster Hospital, etc.

LECTURE V.—Part II.

(3) ON THE PATHOLOGY OF CONVULSION AS DEDUCED FROM THE CONDITION OF THE INNERVATION IN THIS DISORDER.

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86. *The signs of a weak or jaded brain are scarcely ever absent in persons who are liable to epileptic and other chronic forms of convulsive disorders.*

It is an indisputable fact, that idiots are very often epileptic, and it is surely no mere accident that the head of the epileptic is so often wanting in proper dimensions and proportions as to suggest to the least imaginative observer its near kinship to the head of the idiot. It is also an indisputable fact, that a not uncommon ending of epilepsy is in dementia, and that there are very few, if any, cases of epilepsy in which the shadows of this dementia are not forecast upon one or other of the mental faculties, especially upon the memory. Nor is it an objection to this view that men like Julius Cæsar, or Mahomet, or Napoleon I., should have had epileptic seizures; for who shall say, that the overwrought brains of these men may not have been broken down in some important particulars before these seizures made their appearance? And, certainly, there is no lack of evidence to show that the subjects of hysterical or chronic convulsion are in all respects the very reverse of "strong-minded."

87. *All signs of mental life are abolished, or on the point of being abolished, during the paroxysm of convulsion.*

In general, convulsion of an epileptic or epilepti-form character the mind is a perfect blank, and so also, with very few exceptions, in the partial forms of the same convulsions. In the convulsion of hysteria, and in the more severe forms of choreic movements, and the will is altogether in abeyance, and the intellectual state is one which approaches very closely to that of unconsciousness. Hence it is not to be supposed that

convulsion is in any way connected with exalted functional activity of that part of the brain which ministers to the mental faculties.

88. *Convulsion must not be looked upon as a symptom of active inflammation of the brain or its membranes.*

In acute inflammation of the brain or its membranes, convulsion may occur during the cold stage of the disorder, or, more rarely, when the stage of true inflammation is subsiding into the stage of coma or collapse, but never during the existence of active phrenitis. It seems, indeed, to be a constant rule that the hot stage of active inflammation of the brain or its membranes is attended, not by convulsion, but by acute delirium, such as is met with in phrenitis. In the more passive forms of this inflammation, convulsion is a much more frequent phenomenon than in the acute forms, and it is not so easy to determine the relations of the convulsion to the inflammation; but, so far as I can make out, convulsion is altogether incompatible with the presence of the periods of vascular reaction, even though these periods be but faintly marked. In the great majority of these cases, indeed, true inflammatory excitement of the circulation is always absent; and the delirium which may be present is no proof to the contrary, for this delirium is of the type which is met with in delirium tremens, and not of the type which is met with in acute phrenitis. It would seem as if the cerebral disorder in these cases did not get beyond the stage of rigor,—the stage of "irritation," of which I shall have more to say presently. At any rate, I know of nothing in the clinical history of these passive forms of inflammation of the brain or its membranes which is at all calculated to contradict the previous conclusion, that convulsion is altogether incompatible with the period or periods of vascular reaction. Nor is there any evidence of a contrary character in the disclosures of the dead-house.

89. *Convulsion must not be looked upon as a symptom of a congested condition of the cerebral veins.*

As it seems to me, the clinical history of disease is opposed to the theories which ascribe convulsion to a congested condition of the cerebral veins. In whooping-cough, these veins are often congested in a very high degree during the paroxysm, and yet convulsion is only an accidental accompaniment of the paroxysm. In congestion of the lungs, also, these veins are greatly gorged with black blood; and the consequence of this engorgement are dreamy sleepiness, stupor, perhaps, coma, rarely convulsion. Nor is the case different where extreme

venous congestion of the brain is brought about by straining or in any other way; for here the symptoms are coma and paralysis, not coma and convulsion; apoplexy, not epilepsy. Moreover, the recent experiments of MM. Kussmaul and Tenner show very plainly that the effect of tying the internal and external jugulars of rabbits is *not* to convulse these animals, but only to stupify them for the first twenty-four or thirty hours, and, in some instances, to cause them to gnash their teeth for a short time. Indeed, there is nothing in all the evidence, physiological or clinical, to nullify the conclusion already drawn,—that venous blood has no special action in producing convulsion.

90. *The peculiar condition of the nervous system which is known under the name of "irritation," and which, in the majority of cases, has a great deal to do with the production of convulsion, is in no sense the equivalent of inflammation.*

The morbid condition of the nervous system, which is known under the name of "irritation" may be attended by various definite symptoms, and followed by various definite results. According as it may happen to affect the parts of the nervous system which minister to ordinary muscular movements, to common or special sensation, or to vascular movements, it may be attended by tremor, convulsion, or spasm, by morbid sensations of various kinds, or by a contracted condition of the vessels. According as it may happen to have affected one or other of the parts of the nervous system which have been named, it may be followed by paralysis of the ordinary muscular movements, by anæsthesia or some analogous condition of special sensation, or by congestion and inflammation. Moreover, it may be attended by partial or general delirium, and followed by partial or general stupor or coma, if its seat happen to be in the parts of the nervous system which minister to volition and reason. Nor is it difficult to see how it should be thus attended and thus followed.

The circumstances which give rise to the state of "irritation" in some part of the nervous system, and which favor the development of this state, are circumstances which appear to produce the reversal of the natural electrical relations of the exterior and interior of the nerve-fibres at the seat of "irritation." It has been seen in a former lecture that the natural electrical relations of the exterior and interior of the nerve-fibres are reversed when these fibres are acted upon by certain mechanical injuries or when their vitality is upon the point of extinction. It has been seen, that is to say, that the natural

electrical relations of the exterior and interior of the nerve may be reversed under circumstances which may give rise to the state of "irritation" in a nerve or nerve-centre, and which favor the development of this state: for nothing is more certain than that mechanical injuries to a nerve or nerve-centre may give rise to a state of "irritation" in these parts, and that a depressed condition of the vital powers generally is favorable to the development of this morbid state. And thus there is no difficulty in supposing that the natural electrical relations of the exterior and interior of the nerve-fibres may be reversed at the seat of "irritation."

Now, in the case where the natural electrical relation of the exterior and interior of the nerve-fibres are preserved, all parts of the exterior of the fibres are electrified positively, and all parts of the interior negatively, and the electric condition of the exterior and interior appears to be one of static tension, so long as the nerve-fibre remains in a state of inaction. And this appears to be the case, because *all* parts of the exterior are electrified positively, and because *all* parts of the interior are electrified negatively; for it is a law of electricity that parts electrified with *similar* electricity repel each other. Not is this condition of static tension *in* the exterior and *in* the interior of the nerve-fibres neutralized by a contrary action *between* the exterior and interior; for there is something in the constitution of the fibres, be that what it may, which keeps the exterior and interior in opposite electric conditions, and which prevents the opposite electricities of the exterior and interior from rushing together and neutralizing each other. But in the case where the natural electrical relations of the exterior and interior are reversed in a certain part of a nerve-fibre, instead of all parts of the exterior being electrified positively, and all parts of the interior negatively, some part of the exterior is electrified negatively, and some part of the interior positively, as is shown in the accompanying diagrams by making the parts of the fibre, which are occupied by negative electricity, of a darker shade than the parts which are occupied by positive electricity: and the result is that there must be a continual combination and disappearance of electricity *in* the exterior and *in* the interior between the parts of the fibre in which the natural electrical relations of the exterior and interior are preserved, and the part in which these relations are reversed,—between, that is, the parts which are indicated in the diagram by the letters AA, and the part which is indicated by the letter B. The result, that is to say, is one in which the nerve must

lose electricity so long as this reversal continues: for it is a law of electricity that opposite electricities combine and neutralize each other if there be nothing to prevent them from yielding to their natural affinities. In other words, the result of the reversal must be to throw the nerve from the state of inaction into that of action; for it has been seen that a nerve loses electricity when it passes from a state of inaction into that of action, and that this loss is accompanied by the development of instantaneous electrical currents of high tension, analogous to the discharges of the torpedo in and near the nerve.

If, then, this be so,—if the natural electrical relations of the exterior and interior of the nerve-fibres are reversed at the seat of "irritation," and if the effect of this reversal is to throw the nerve from a state of inaction into that of action so long as the reversal continues,—then there is no difficulty in explaining the several phenomena which may attend upon or result from the morbid state of the nervous system which is known as "irritation." There is no difficulty in understanding how, according as its seat may be in ordinary motor nerves or ganglia, in sensory nerves or ganglia, in the cerebral hemispheres, or in the vaso-motor nerves or ganglia, the "irritation" may be attended by morbid contractions of the common muscles, by morbid sensations of various kinds, by morbid mental movements, or by morbid contractions of the bloodvessels: and how, according as its seat may have been in one or other of those parts of the nervous system which have just been mentioned, the "irritation" may end by paralyzing one or other of these parts, and by producing in this manner paralysis of the ordinary muscles, or anæsthesia and conditions allied to it, or partial and general stupor and coma, or congestion and inflammation.

According to this view, then, it is easy to see how, if the vaso-motor nerves or ganglia are implicated, the "irritation" may be attended by contraction of the vessels: for contraction of the vessels is produced when these nerves are acted upon by galvanism or in any other way. And it is as easy to see how, in the end, the same "irritation" may be followed by congestion and inflammation: for it has been seen that the contraction of the vessels passes into congestion and inflammation if the said nerves or ganglia be paralyzed either by the continuance of the same cause which first put them in action, or in any other way. (Indeed, the experiments of Professor Claude-Bernard and Dr. Brown-Séquard upon the sympathetic in the neck appear to furnish the key to the interpretation of inflammation when it is used in this manner.) Nay, it is easy to see how this conges-

tion or inflammation may be seated anywhere or everywhere; for there is no part of the nervous system in which the "irritation" may not begin, or into which it may not travel, and therefore there is no part of the vaso-motor system which may not be paralyzed by the continuance of the "irritation,"—paralyzed, that is, by the continuance of the action of those instantaneous electrical currents of high tension, analogous to the discharges of the torpedo, which are developed in and near the nerve or nerve-centre, which is the seat of "irritation."

According to this view, then, "irritation" is in no sense the equivalent of inflammation. According to this view, indeed, the *hot stage* of inflammation, with its congested and inflamed vessels, *must follow the cold stage*, with its rigors and pains, and with its shrunken and contracted vessels, because the hot stage is not produced until the "irritation," which produces at one and the same time and by one and the same means the rigors and pains and empty vessels of the cold stage, has by its continuance at last brought about a certain amount of paralysis in the nerves belonging specially to the vessels. And certainly there is nothing in the history of convulsion which is contradictory to this view of the relations between "irritation" and inflammation. For is it not true that the epilepsy may be present in its most violent forms where it is impossible to associate the "irritation" upon which the convulsion depends, with the faintest blush of inflammation in any part of the nervous system or elsewhere? And has it not just been seen that the epileptiform convulsion which may be associated with cerebral inflammation is anterior or posterior to this inflammation,—is, in fact, a substitute for rigor or subsultus?

91. *The condition of the function of innervation during convulsion is one which supports the notion, that the convulsion is connected with depressed and not with exalted action in the function.*

All the previous considerations lead to this conclusion, and to this conclusion only.

92. *The condition of the circulation and respiration during convulsion is one which necessitates the conclusion that convulsion is connected with depressed and not with exalted action of the nervous system.*

This conclusion is also inevitable, for it has been seen that the condition of the circulation and respiration during convulsion is incompatible with anything but the most depressed condition of vital action in the nervous system and in the system generally.

93. THE GENERAL CONCLUSION TO BE DEDUCED FROM THE CONSIDERATION OF THE CONDITION OF THE RESPIRATION, AND CIRCULATION, AND INNERVATION, DURING CONVULSION, IS THIS.—THAT THE PATHOLOGY OF CONVULSION IS AS MUCH IN HARMONY WITH THE VIEW OF MUSCULAR MOTION SET FORTH IN THESE LECTURES AS IT IS OUT OF HARMONY WITH THE CURRENT VIEW ON THIS SUBJECT.—THAT, IN FACT, CONVULSION IS THE SIGN OF DEPRESSED, AND NOT OF EXALTED, VITAL ACTION.

LECTURE VI.

2. ON THE THERAPEUTICS OF CONVULSION.

I spoke at some length upon this subject in the Gulstonian Lectures, which I had the honor of delivering in this College three years ago; and I do not propose to trespass upon your patience by recapitulating what I then said. Indeed, all I propose to do at present is to offer a few detached hints upon some points which seem to be of primary importance, and which have some claim to novelty.

94. *There is reason to believe that the diet in many cases of chronic convulsive disorder ought to contain somewhat more than an average quantity of oily and fatty matters, and somewhat less than an average quantity of lean meat.*

There is a common notion, not confined to non-medical persons, that lean butcher's meat is the one thing necessary to strengthen a weak system: and I believe that the carrying out of this notion not unfrequently complicates the difficulties which prevent the successful treatment of the case under consideration, and of many other cases also. With such a diet, as it seems to me, the blood is likely to get into a semi-gouty condition, unless there be a degree of activity in the circulation and respiration which is not likely to be met with in epilepsy, chorea, hysteria, or any other form of chronic convulsive disorder: and I have an impression that the undoubtedly beneficial influence of bromide of potassium in so many cases of epilepsy is owing, in part at least, to the fact that this salt, like iodide of potassium, corrects the semi-gouty condition of the blood arising from this and other causes. At any rate, I have no doubt as to the practical advantages of so regulating the diet in the cases under consideration as to diminish the usual allowance of fibrinous articles and to increase the usual allowance of oily and fatty articles. I have increased the quantity of the latter articles for the same reason as that which has led me to employ cod-liver oil in many of these cases, and of this I shall have to speak presently.

95. *There is reason to believe that gymnastic exercises are very beneficial in the great majority of chronic convulsive cases.*

During the last three or four years I have seen several cases of epilepsy, chorea, and hysteria, in which undoubted good has resulted from the adoption of a regular course of suitable gymnastic exercises; and the more I see the more I am satisfied that a course of this kind is a very important adjuvant in the treatment of these and many other cases. I recall to mind more than one case of epilepsy in which the patient has said, that he has often warded off an attack which seemed to be imminent by a bout at the trapezium; and I have at present a case under treatment in which good seems to have been done by adopting a practice recommended by Dr. Henry Silvester, in the treatment of consumption,—a practice which may, perhaps, be brought under the head of gymnastics. Having ascertained that the mere dead weight of the arms hanging by the side reduces the amount of air which might be taken into the chest, to the extent of ten cubic inches or thereabouts, Dr. Silvester proposes that a phthisical person shall now and then eke out his insufficient respiration by breathing in such a manner as to get rid of this weight,—by breathing, that is to say, with the hands taking hold of something fixed at a sufficiently high level, or, what answers the purpose still more easily, with the hands clasped together and resting upon the top of the head. And this proposition appears to have much to recommend it, not only in phthisis, but also in other cases in which, as in epilepsy, the respiration is wanting in activity. I also think that a collateral argument in favor of gymnastics may be derived from Dr. Silvester's investigations upon artificial respiration, for these investigations show that as much as from nine to forty-four cubic inches of air may be made to pass in and out of the chest by merely pulling the arms upwards and then bringing them backwards to the sides, and that this movement of the arms is itself a mode of performing artificial respiration which is more effectual than any other. Of course, the beneficial influence of gymnastics is not confined to the respiratory function. On the contrary, this influence tells equally upon the circulatory and upon all other functions, as it indeed must do if it acts in this manner upon the respiration, for the activity of the respiration is a fair criterion of vital action generally.

96. *There is reason to believe that the action of cod-liver oil is beneficial in the great majority of cases of chronic convulsive disorder.*

For the last four years I have employed cod-liver oil in many

cases of epilepsy, chronic epileptiform disorder, chorea, and hysteria; and, so far as I can judge, I have no reason to be dissatisfied with the results. I can also refer to the experience of my friend and colleague, Dr. Anstie, as bearing out my own experience in this respect most fully. I was led to this practice, and also to that of recommending a fair amount of fatty and oily articles of diet, by remembering that fatty matter is, as is seen in the following table, (which gives the mean of six

	Infants.	Youths.	Adults.	Aged persons.	Idiots.
Fat,	3·45	5·30	6·10	5·32	5·
Phosphorus	·80	1·65	1·80	1·09	0·85
Albumen	7	10·20	9·10	8·65	8·40
Osmazone and Salts	5·96	8·59	10·19	12·18	11·82
Water,	82·79	74·26	72·51	73·65	70·93

analysis of the human brain, by M. L'Heretier.) as important ingredient of brain-tissue; and not of brain-tissue only, for it is found that the ingredients of the spinal cord and of the nerves generally are substantially the same. Remembering this fact, and remembering also the reasons which oblige me to believe that the function of innervation is carried on imperfectly in all convulsive maladies, I came to the conclusion that there might be a starved condition of the nerve-tissue, which might, perhaps, be remedied by cod-liver oil or by oily and fatty articles of food; and, be this theory right or wrong, I think, as I have said, that I have no reason to be dissatisfied with the results of putting it in practice.

97. *There is reason to believe that phosphorus is a suitable remedy in many cases of chronic convulsive disorder.*

For the last four years, I have used phosphorus in the majority of the cases of convulsion in which I have used cod-liver oil, and for the same reasons, and with the same results. I asked myself whether the fact set forth in the preceding table, (¶ 96.) that phosphorus is present in nerve-tissue, and that the amount of this ingredient seems to have some direct relation to the activity of the nervous function, being as much as two per cent in adult life, and below one per cent in infants and idiots, might not show that phosphorus is required as food by a weak nervous system.—as much required, perhaps, as is iron in cases where there is a deficiency of red corpuscles in the blood; and this question, once put, seemed to require an answer in the affirmative. "In small doses," says Dr. Pereira, "phosphorus excites the nervous, vascular, and secretary organs. It creates an

agreeable feeling of warmth in the epigastrium, increases the fulness and frequency of the pulse, augments the heat of the skin, heightens the mental activity and the muscular powers, and operates as a powerful sudorific and diuretic." In large doses, phosphorus, without doubt, is a caustic poison: in proper doses it produces the very changes which are necessary in epilepsy and in other cases of chronic convulsive disorder. In proper doses, and under the eye of a medical man, it is quite innocent of harm, and it may be productive of much good. This inference is that which may be drawn from what I said: and this inference, so far as I can see, is not contradicted by experience. Given in the large doses in which phosphorus has been given in a few cases already on record, the good resulting may have been doubtful, very doubtful: but this experience is nothing to the point, for there is no reasoning in any case as to the effects of medicinal doses from the effects of poisonous doses. Given in medicinal doses, I have seen enough to know that this remedy may be given, not only without harm, but with the unmistakable promise of real and substantial good. The form in which I first gave the phosphorus was the phosphorated oil of the Prussian Pharmacopœia, a preparation which is made by dissolving twelve grains of phosphorus in a fluid ounce of almond oil, by the aid of warm water. About four grains of the phosphorus is taken up, and the usual dose is from five to ten minims. I gave this oil always with cod-liver oil, in a little orange wine, twice or thrice a day. In many cases, however, this mixture proved to be so nauseous that the stomach refused to tolerate it; and lately I have often given the oil and the phosphorus separately, using the ethereal tincture of phosphorus of the French Codex as the vehicle for the phosphorus. I have given the oil with tolerable regularity so long as it seemed to be wanted, and the tincture now and then, especially when the symptoms called for a stimulant. I direct one fluid drachm of the ethereal tincture to be mixed with two fluid ounces of sulphuric ether, and preserved in a capped bottle, the dose being half a fluid drachm to one fluid drachm, mixed with water at the instant of swallowing it. In the ethereal tincture of phosphorus of the French Codex, four grains of phosphorus are dissolved in one fluid ounce of ether, and, consequently, the strength is the same as that of the phosphorated oil of the Prussian Pharmacopœia."

98. *"There is reason to doubt the suitableness of belladonna as a remedy in many cases of epilepsy and other forms of chronic convulsive disorder.*

I have for some time been in the habit of looking upon the dilatation of the pupil, which results from the action of belladonna, as an objection to the employment of this medicine in epilepsy, and in cases more or less akin to epilepsy; and my chief reason for so doing has been a growing impression that the alterations in the size of the pupil are due to vascular rather than to muscular changes in the iris, and that these alterations furnish an exact index to the condition of the circulation within the brain. I have, in fact, been led to agree with those physiologists who look upon contraction of the pupil as being, in a great measure, due to a state of turgescence in the vessels of the iris, and upon dilatation of the pupil as being to the same extent the consequence of an empty state of those vessels. I have been led to do this, partly by thinking, as did Bichât that the pupil enlarges in the dark, not because there is then an end to the "irritation" which had kept certain sphincter fibres in a state of contraction so long as they are acted upon by the light, but because the *iris* has passed out of a state of expansion, which state was determined by the action of the light,—a view which brings the movements of the iris in the light and the movements of the cushions of the sensitive plant under similar circumstances into the same category; and partly by reflecting upon the history of five cases of acute cerebral meningitis which have been under my care during the last eighteen months. In these cases I saw the pupil contracted to its utmost limit when the symptoms denoted unequivocal active determination of blood to the head, and dilated before this state was developed and after it had passed off: and the more I pondered upon these phenomena, the more I became convinced that the size of the pupil was dependant upon the condition as to fulness or emptiness of the minute arteries and capillaries of the brain; that, in fact, the pupil became contracted because the vessels of the iris participated in the arterial turgescence of the brain, and that the pupil became dilated because the vessels of the iris participated in the emptiness of the cerebral vessels. And I was also confirmed in this opinion by remembering that the pupil contracts when the eye and the whole of the corresponding side of the head become injected with blood as the result of dividing the cervical sympathetic in that side, and that the pupil dilates when this vascular injection is made to pass off by galvanizing the divided sympathetic above the line of section. In the dilatation of the pupil, resulting from the action of belladonna, therefore, I have had what seemed to me a plain proof that this remedy produced an

anæmic condition of the brain, and an equally plain objection to the use of this remedy in epilepsy and in any other cerebral disorder in which there is reason to believe that the brain and nervous system generally are in an anæmic rather than in a hyperæmic condition; and I can say, without any hesitation, that I have seen no such unequivocal good from the practical employment of belladonna in these cases as to lead me to disregard this theoretical objection. Upon this point, however, I may not have seen enough to enable me to form a sound conclusion.

99. *There is reason to believe that opium may be a more suitable remedy than belladonna in some cases of epilepsy and in some other forms of convulsive disorder.*

Opium differs from belladonna in causing contraction of the pupil instead of dilatation; and, therefore, for the reasons set forth in the last paragraph, opium differs from belladonna in producing a hyperæmic instead of an anæmic condition of the brain, and in being suitable in cases in which belladonna is not suitable,—in cases where the brain is anæmic rather than hyperæmic,—in cases, it may be, of epilepsy, among others. As yet, however, I have met with few cases in which I have thought it expedient to test the correctness of this theory by putting it in practice.

100. *There is reason to doubt the efficacy of zinc as a remedy in epilepsy, and in cases akin to epilepsy.*

I am disposed to look upon zinc as having an action upon the system which is directly opposed to that of iron. Iron, as all know, has an astonishing power of favoring the nutrition and multiplication of the blood-corpuscles. Zinc, on the other hand, blanches the system, and induces, before long, the state which was once known as *tabes sicca*, and for which no other name has yet been devised. Zinc, indeed, exercises a peculiar desiccating influence upon the system. Dr. Pereira mentions the case of an epileptic gentleman who took daily, upon an average, twenty grains of oxide of zinc, until he had swallowed 3246 grains, and who at the end of this time was pale in the extreme, sallow, wasted away, almost idiotical, with the tongue thickly coated, the bowels constipated, the inferior limbs cold and œdematous, the abdomen tumid, the arms cold and shrivelled, the skin dry and almost like parchment, the pulse slow, thready, and scarcely perceptible. This patient experienced no change for the better in his fits; but he soon recovered from the effects of the zinc under appropriate treatment. I have also myself seen four cases, different from this one only in being not quite so severe.

and I have met with many cases in which the prolonged use of zinc, in one form or another, has produced decided sallowness and bloodlessness of the complexion. I find also that brass-founders, who are exposed to the fumes of deflagrating zinc, are often dried up and wizened in a curious manner. And Dr. Greenhow has recently shown, in addition, that these men are apt to suffer, particularly in the afternoons of the days spent in the casting shop, from what is called "brass-founders' ague," —a disease beginning with malaise, tightness or constriction in the chest, nausea, repeated rigors, and ending in profuse sweating after a short and faintly marked hot stage. Here, then, is evidence that zinc is capable of producing a form of convulsive malady,—for rigor is a form of such malady,—as well as of producing the *tabes sicca* which has been described. Here, indeed, is evidence which may, perhaps, throw some light upon the disorders of the nervous system, in which zinc is likely to do good or harm. That zinc does not always do good in these disorders is evident. My colleague, Dr. Marcet, who has for some time past given oxide of zinc very extensively in these disorders, reports very favorably of the result in some cases, but not in others. He does not report favorably of this mode of treatment in ordinary cases of epilepsy, and his report, I am satisfied, will not clash with the experience of the great majority of practitioners. Nay, it is a significant fact that M. Herpin, who has written a thick volume in praise of the virtues of oxide of zinc in epilepsy, has for some time been dissatisfied with his own favorite remedy, even to the extent of discarding it not unfrequently for a remedy which savors more strongly of the *materia medica* of the middle ages than that of the nineteenth century—poudre de Neufchâtel, or, in plain words, powder of fried mole. Dr. Marcet reports more favorably of the action of ozide of zinc in those cases in which he had to deal with various vague head symptoms, without convulsion,—a result which will also coincide with the experience of not a few. How then is this? Is it that the zinc does good in those cases of brain disorder in which there is a disposition to congestion of the brain, without any deficiency in the amount and quality of the blood, by virtue of that power which produces *tabes sicca* when pushed to an injurious extent? Is it that the zinc does good when the condition to be combated is hyperæmic, and harm when this condition is anæmic? These are questions to which I know no better answers than that which is contained in the preceding considerations, and this answer is so plain as to require no further comment to make it plainer.

101. *There is reason to believe that alcoholic stimulants are the most trustworthy antispasmodics in the prevention and treatment of convulsion.*

The wider experience of the last four years has not shaken my convictions upon this point. On the contrary, I do not remember any one case in which there was not something to strengthen these convictions. I have very recently seen a case of aggravated chorea in which there had been no sleep for five days and nights, and no cessation to the movements of any moment, in which a wineglass of port wine given every half-hour, with an egg beaten up in the alternate dose, produced quiet and sleep in ten hours, and in which a continuance of the same treatment, only in a less vigorous style, left the patient well, so far as the chorea was concerned, in a week; and I could cite other cases, at least three, to the same effect. I could also cite many cases of epileptic and hysteric convulsion averted, or its recurrence prevented, by means of a proper use of alcoholic stimulants.

102. *There is reason to believe that bloodletting, in one form or another, may be permitted in certain cases of convulsion, in order to prevent certain consequences of the convulsion.*

There is nothing in the pathology of convulsion to justify the notion that convulsion is likely to be prevented by bloodletting; but it is not difficult to understand that cases of epileptic or epileptiform convulsion may be met with in which the veins of the brain may be so gorged with black blood as to put the patient in imminent danger of apoplexy, and in which this danger may be somewhat lessened by abstracting a small quantity of blood. And, possibly, this may be no wrong practice in such a case. At present it is plain that past experience is too much disregarded in this matter. Why, it may well be asked, if moderate bloodletting be so serious a matter, should a woman require periodical bleeding to keep her in health? Nor must the astonishing power of multiplication belonging to the blood-corpuscles be lost sight of in this matter. Speaking of the rapidity with which an anæmic patient became convalescent in St. Mary's Hospital, Dr. Thos. King Chambers says,—and what he says requires no further comment,—"She weighs 8 stone, or 1792 oz.: of this 2-7, or 512 oz., is blood; and of this blood 133-1000, or 60 oz., should be red globules. Now, the analysis of MM. Andral and Gavarret show that in cases of anæmia of at all a marked character, (as this was,) we may expect at least three-fourths of the red blood-discs to disappear; so that when she came into the hospital it may fairly be assumed

that she did not possess more than 15 oz.; and now I think she may be assumed with equal fairness to have got up to 45 oz., which is conceding that she still wants a-quarter of perfect health. By this she must have made 20 oz. of red blood-discs. —that is the most important organic constitutent of upwards of 150 oz. of blood,—in a month.

103. THERAPEUTICALLY AS WELL AS PATHOLOGICALLY, THERE IS, IN FACT, EVERY REASON TO BELIEVE THAT THE MEANS TO BE EMPLOYED IN THE TREATMENT OF CONVULSION ARE THOSE WHICH EXALT, AND NOT THOSE WHICH DEPRESS, VITAL ACTION.

Editorial.

A TREATISE ON HYGIENE: WITH SPECIAL REFERENCE TO THE MILITARY SERVICE. By WILLIAM A. HAMMOND, M.D., Surgeon-General of U. S. Army; Fellow of the College of Physicians of Philadelphia, &c., &c., &c., &c. Philadelphia: J. B. LIPPINCOTT & Co. 1863.

This is a full-sized octavo volume of 604 pages, published in excellent style, and containing a treatise on a very important branch of medical science, by one who occupies a high official position. After a short preface and introduction, the work is divided into three sections, as follows:—

Section 1st.—On the examination of recruits.

Section 2d.—Of the agents inherent in the organism which affect the hygienic condition of man.

Section 3d.—Of agents external to the organism which act upon the health of man.

The work is illustrated by 74 cuts, representing chiefly plans for hospitals and apparatus connected therewith. The first section, which occupies about forty pages, we shall pass by with the single remark, that it contains plain, practical, and generally judicious directions in relation to the examination of recruits: pointing out plainly the items of qualification and disqualification to be observed by the medical examiner. The next section contains ten chapters on the following subjects:—1. Race; 2. Temperaments in general; 3. Particular temperaments; 4. Idiosyncrasy; 5. Age; 6. Sex; 7. Hereditary tendency; 8.

Habit; 9. Morbid habits; 10. Constitution. These ten chapters simply present a brief summary of such facts and opinions relating to the several topics as are familiar to every reading man in the profession. Together, they occupy eighty-six pages of the work.

Section III. contains twenty-nine chapters as follows:—1. The atmosphere; 2. The accidental or non-essential constituents of the atmosphere; 3. Physical properties of the atmosphere; 4. Temperature; 5. Light; 6. Electricity; 7. Water; 8. Soil; 9. Locality; 10. Climate; 11. Acclimation; 12. Habitations; 13. Hospitals; 14. Principles of hospital construction; Field hospitals; 16. Lighting of hospitals; 17. Heating of hospitals; 18. Ventilation of hospitals; 19. Barracks; 20. Camps; 21. Food; 22. Alimentary principles; 23. Physiological and sanitary relations of food; 24. Animal compound aliments; 25. Vegetable compound aliments; 26. Accessory food; 27. Alimentation of the soldier; 28. Clothing; 29. The hygienic relations of clothing with the several parts of the body.

It will be seen that six of these chapters, filling more than one hundred and forty pages, are devoted to the consideration of hospitals and their management, and constituting, by far, the most valuable part of the work. The remaining chapters, except the 26th, like those in the second section, present only brief summaries of the most common-place and familiar facts in relation to each topic. For instance, in the chapter on Temperature, instead of a philosophical explanation of the effects of caloric on living animal structures, and the best means of obviating the consequences of its excess or deficiency, we have reproduced the old and familiar story of the excursion of "Sir Joseph Banks, Dr. Solander, and nine others;" and the usual allusion to the destruction of Napoleon's army on the frozen plains of Russia. We are also told that the direct rays of the sun, in hot weather, are liable to produce "sun-stroke," and that a wet cloth worn on top of the head is a good prophylactic; but in what "sun-stroke" consists, pathologically, is not so much as hinted at. The only chapter in which the author attempts to enter upon a philosophical discussion of the subject

under consideration, is that which treats of "Accessory Food." Under this head, the author includes condiments, such as pepper, mustard, vinegar; drinks,—as alcohol and its compounds; tea and coffee; and tobacco. The comments on the three first articles are brief and unexceptional. Those in relation to alcohol and its compounds are of a widely different character. He introduces the subject with the following very modest declaration, namely:—"The chief reason why the advocates of a total prohibition of the employment of alcoholic liquors have been unable to carry conviction to those to whom they have addressed themselves is, that their remarks have *mainly consisted of invectives*, and that whatever facts they have brought forward have been altogether based upon the *immoderate* use of the agents in question." For fifty years, this has been the uniform reply of the advocates of alcoholic liquors as beverages, to all arguments, whether founded on statistical facts, showing the relative power of physical endurance between those who use and those who do not use alcohol; the relative ratio of sickness and mortality; or on direct physiological experiments. To show by actual results of labor in every department of human toil, whether in the harvest-field, the workshop, the brickyard, the army, or the navy; whether in summer or in winter; whether under the burning rays of a torrid sun, or amidst the icebergs of the arctic regions; that those who use alcoholic beverages, whether fermented or distilled, actually do a less average amount of labor, are capable of less physical endurance, and suffer a higher ratio of attacks of sickness than those who, under exactly the same circumstances, wholly abstain from such liquors, is to deal *mainly* in "invectives," is it? To prove, by direct experiment, that alcohol enters the blood unchanged, disturbs and perverts the sensibility and action of the nervous structures, depresses the elementary properties of all the tissues,—thereby retarding organic changes,—and disturbing the natural play of those affinities, by which nutrition, disintegration, and secretion are effected; and is finally evolved again from the economy as alcohol, from the lungs, kidneys, &c., is also dealing mainly in "invectives," we suppose.

To show by the physiological action of alcohol, and by innumerable cases, taken from every rank of human society, that the habitual *moderate* use of alcoholic drinks leads, in nine cases out of every ten, to the "immoderate" use of the same, is also dealing in "invectives." Well, be it so for the present. Immediately following the paragraph quoted above, our author proceeds as follows:—"No one can for a moment deny that alcoholic liquors, when used in excessive amount, are not only injurious to the individual, but are also in the highest degree pernicious to society. * * * But are such facts to influence us against the *proper* use of all beverages which contain alcohol. * * * Do we reject mutton because some one has killed himself by eating too heartily of mutton-chops?"

We certainly should not condemn the proper use of an article merely because its abuse produced injurious effects. But we cannot help asking, whether the W. A. Hammond, M.D., author of the work before us, ever heard of a certain Order, No. 6, excluding calomel from the supply-table of the army, *because it had been used* "immoderately" by some of the army surgeons, issued by W. A. Hammond, M.D., Surgeon-General of United States Army?

Without wasting words, however, on minor matters, let us first see what are the actual effects of alcohol on the human system, as shown by the experiments and researches of Drs. Percy, Prout, Böcker, Lellemand, Hammond himself, and others, as collated in the chapter under consideration. They may be summed up as follows:—

1st.—The alcohol taken into the stomach is rapidly absorbed into the blood, circulated with it throughout the whole system, and is eliminated chiefly through the lungs and kidneys; being readily detected, by the proper tests, both in the vapor of the breath and in the urine.

2d.—While in the blood, it produces an exhilerating effect upon the brain and nervous centres, causing thereby disturbance in the mental operations and sensibilities of the patient.

3d.—Its presence in the blood diminishes the aggregate amount of eliminations from the several excretory organs of the

body, doubtless by diminishing both structural disintegration and secretion.

These propositions may be considered as well settled by a great variety of experiments and observations, both in Europe and America. But the practical inferences to be drawn from them are still the subjects of much controversy. Thus, a class of chemico-physiologists, embracing LIEBIG, MOLESCHOTT, HAMMOND—the author of the work before us, and many others, claim that, because the presence of alcohol in the human system diminishes the aggregate amount of eliminations, and causes an increase in the weight of the body, provided the digestion of other food goes on as usual, it actually supplies the place of food.

Thus, on page 539 of the work before us, Dr. HAMMOND says:—"We have seen that it takes the place of food, and that the weight of the body increases under its use. Any substance which produces the effects which we have seen to attend on the use of alcohol, even though it is not demonstrable at present that it undergoes convertion into tissue, is food;" and on the next page we find a quotation from MOLESCHOTT, as follows:—"Alcohol is a savings-bank for the tissues.—if the expression will be understood. He who eats little and drinks moderately of alcohol, retains as much in his blood and tissues as he who, in corresponding relations, eats more and drinks neither beer, nor wine, nor brandy." It is on this assumption, that alcohol is a substitute for food, that our author and others of the same physiological school base nearly all their reasoning in favor of the general use of alcoholic compounds as beverages. It is mainly on this same assumption that a very large class of medical writers and practitioners base their recommendation of alcoholic drinks in the treatment of numerous important diseases. Hence the question, whether this assumption or inference is correct; whether it legitimately follows from the premises or facts proved, is one of the highest importance in its relations to physiology, therapeutics, and social life. Plainly and concisely stated, the premises and the inference is as follows:—

1st.—It is definitely proved, by a great variety of experiments, that under the influence of alcohol, other things being equal, the sum total of the excretions or eliminations from the lungs, skin, kidneys, bowels, &c., are diminished, and the body gains in weight. This is the premise from which it is inferred.

2d.—That such diminution of elimination is caused by the alcohol retarding the natural disintegration of the tissues, while the processes of assimilation and construction of tissue is allowed to continue; and that thereby the alcohol acts the part of actual food.

Thus, the naked question is evolved: whether a retardation of the natural disintegration of tissue and elimination of the resulting effete matter is actually equivalent to, or will, physiologically, compensate for, a certain amount of assimilation and nutrition? Dr. HAMMOND, and the advocates of the use of alcoholic beverages, generally assume the affirmative: but is their position in consonance with the known and acknowledged laws which govern the nutrition and disintegration of living tissues? It is universally conceded, that living organized animal structures are composed of organic atoms or cells, none of which remain permanent, but each of which serves its purpose and gives place to a new one. It is further generally conceded, that the performance of every functional act or display of force, whether mental or physical, is attended by more or less displacement of these atoms. It is this constant displacement of old organic atoms that renders a regular supply of food or ingesta necessary to the maintainance of life in all the higher orders of animals. This constant atomic change, being a physiological law of the organization, taking place under the guidance of an inherent vital affinity, cannot be retarded, except by directly impairing or weakening the affinity itself, or by introducing some new agent possessing a stronger affinity for some of the atoms composing the tissues than is possessed by oxygen or whatever naturally effects the primary steps of disintegration. To do either of these, manifestly induces a *pathological* condition incompatible with the continuance of health. For every intelligent physiologist knows, that

on the constant display of vital affinity in the organic or atomic changes taking place in the tissues, depends the development of caloric to maintain animal temperature: the generation of nerve sensibility; the elaboration of the secretions; and, indeed, all the distinctive phenomena of animal life. Hence, whatever agent introduced into the blood, in a healthy state of the system, is capable of retarding the process of disintegration, must, if persisted in, necessarily produce either disease, or perverted nutrition, or both. Dr. HAMMOND himself sees, at least partially, this conclusion, as is evident from the following, from page 540:—"Alcohol retards the destruction of tissue. By this destruction force is generated, muscles contract, thoughts are developed, organs secrete and excrete. Food supplies the material for new tissue. *Now, as alcohol stops the full tide of this decay, it is very plain that it must furnish the force which is developed after it is ingested. How it does this is not clear.*"

Here is a full acknowledgment of the fact: that to retard the metamorphosis or disintegration of the tissues is to retard, in the same ratio, all the force producing processes or organic functions of animal life. True, he attempts to escape from the dilemma by supposing that the alcohol itself comes to supply the force which its presence prevents the natural atomic changes in the tissues from generating: but how it does this, he frankly confesses, "is not clear."

His attempt, on the next page, to explain the matter by saying, "it is not at all improbable that alcohol itself furnishes the *force* directly, by entering into combination with the products of tissue decay, whereby they are again formed into tissue, without being excreted as urea, uric acid, &c.:" is not only destitute of proof, but, unfortunately, in direct conflict with the results of a well-devised series of experiments by LALLEMAND, PERRIN, and DUROY, which show that all the alcohol taken, is ultimately eliminated through the excretory organs unchanged. The same is confirmed by Dr. HAMMOND's own experiments, during which the alcohol was generally detected both in the breath and the urine some time after it was absorbed from the stomach.

Thus, turn whichever way they will, those who advocate the doctrine, that a retardation of disintegration is equivalent to nutrition, involve themselves in difficulty. Indeed, the proposition itself is a physiological absurdity. If it were true, it would only be necessary to find some substance that would arrest the processes of tissue disintegration entirely, and we might live on without the necessity or *expense* of eating at all. Indeed, if alcohol is capable of retarding tissue destruction, and, at the same time, of furnishing the required *force* itself, what is to hinder a man from living on it indefinitely? Whether fascinated by the beautiful theory of HAMMOND or not, many a poor fellow has practically tested it, but has generally been unfortunate enough to have the experiment cut short by a fit of *delirium tremens*. We have thus far pursued the subject as though the experiments cited by our author actually proved that alcohol retarded the disintegration of tissues: but they really prove no such thing. They simply show, that, while alcohol is present in the system, the sum total of eliminations is diminished and the weight of the body increased, provided the usual supply of ordinary food has been continued. Whether the diminished excretions are owing to retarded disintegration of tissues or to the direct action of alcohol on the excretory organs, whereby their power to perform their respective functions becomes impaired, is a question open for discussion: and one to which we may recur at some future time.

The only remaining ground on which alcohol can be claimed as food, in any sense, is that originally put forth by LIEBIG, and quoted approvingly by our author, namely, that, like other hydro-carbonaceous substances, it furnishes material for respiration. This, however, is also directly disproved by all the experiments cited in the chapter before us; by a series of experiments performed by myself, and reported to the Annual Meeting of the American Medical Association, in 1851; and by a great variety of facts derived from observation. It is evident that alcohol can act as respiratory food only by entering into combination with the oxygen; the resulting products of which would be carbonic acid gas and water; and, as a con-

sequence, we should have an abundance of carbonic acid exhaled from the lungs and an increased temperature of the system. Whereas the experiments cited by our author all show a diminution of carbonic acid in the exhaled air and the presence of alcohol unchanged: while those reported by myself, show a positive decrease of temperature while under the influence of that agent. There are several other items in this chapter we had intended to notice, but time will not permit at present. We have written enough to show the utter fallacy of the main positions of the author: in his effort to convert what he acknowledges in the outset to be a "violent poison," into beneficial food and drink. That part of the chapter commending the use of tobacco, is founded on the same fallacies and exhibits the same absurdities.

Indeed, his direct definition of food, necessarily destroys all distinction between aliments and poisons,—between food and medicine. After stating that the presence of alcohol in the system diminishes the destruction of tissue and causes the body to increase in weight, he says:—"Any substance which produces the effects which we have seen to attend on the use of alcohol, even though it is not demonstrable at present that it undergoes conversion into tissue, *is food.*" Now, it is well known that opium, and, probably, all the other narcotics, diminish the organic changes; and, if taken in moderate doses, allowing appetite and digestion to continue, the body increases in weight. The same results have been known to accompany the use of arsenic and other acknowledged poisons. Would Dr. Hammond, therefore, call opium and arsenic food? To do so would only be equalled in absurdity by the following remark of Liebig, gravely quoted as authority by our author:—"The use of spirits is not the cause, but an *effect of poverty.* It is an exception to the rule when a *well-fed* man becomes a spirit-drinker." Such an assertion, in this country, where a loaf of bread costs but a trifle more than a glass of whiskey or a mug of beer, and where men are almost as frequently seen staggering in broad-cloth as in rags, will scarcely produce any other effect than to excite a smile at the theoretical vagaries of men

eminent in some departments of science. It is hardly necessary to say, in conclusion, that the examination of this work of Dr. HAMMOND has exceedingly disappointed us. The publishers have done their part of the work well; but, so far as it claims to be a treatise on hygiene, it is very superficial and abounding in most mischievous errors.

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Medical Department of Lind University.

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N. S. DAVIS, M.D., Editor.

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Original Contributions.

ARTICLE XXX.

THE ORGANIC INDEX OF HUMAN LONGEVITY.

By W. BYRD POWELL, M.D., of Covington, Ky.

Mr. Editor:—Early in my practice, as a physician, my observations induced me to suspect that human longevity was not so referable to the incidental influences of life as was generally supposed. I observed that some people, who appeared to be soundly physiological and of temperate and prudent habits, died comparatively young, and of disease of comparatively moderate violence. That others lived to old age, with habitually imprudent and intemperate habits, and seemed greatly invulnerable to epidemic and other causes of disease; and, if assailed, recovered. The more I multiplied my observations the more I became impressed with the suspicion, that these different results had an organic cause. Being at this time engaged in repeating the observations of Dr. Gall, it became suggested to me as being possible, perhaps probable, that human longevity might be indicated by some cerebral development, and, henceforth, my observation was directed to the discovery of it.

Under this course of observation, it was not long before I was brought to the conviction, that vigorous life, or such as is attended by an energetic manifestation of the vital functions

generally, is associated with a broad development of the cerebellum and of the base of the cerebrum; and, for the sake of distinction, I designated this class by the epithet of "vigorous life." But many years subsequently, Dr. MARSHALL HALL designated it by the more elegant epithet of "high stimulus." I do not remember that he indicated the organic index of this class. This class is particularly liable to acute forms of disease, as acute rheumatism, pneumonia pleuritis, &c., and a large proportion of this class die comparatively young, but a respectable minority live to old age; and the wherefore of this will be explained in the sequel.

Per contra, there is another class which is distinguished by the base of the cerebrum and the cerebellum being comparatively contracted. The vital functions of this class are never manifested vigorously, but frequently with much activity. This class generally manifests much tenacity of life. Many of this class are perpetually complaining of ill health and the expectation of an early death, but still live, and with wonderful tenacity of life, to the age of three score and ten years or older. I denominated this the vitally tenacious class, and Dr. HALL, by the epithet of "high dynamis," but neither is strictly correct, because a majority of those having a scrofulous diathesis belong to this class, and, generally, they do not live to be old. But those of this class who are exempt from any strumous taint have, usually, great tenacity of life, not unfrequently living a hundred years. The oldest individual I ever saw was of this class, and said to be one hundred and seventy years old, and the evidences of the fact, both physical and written, were to me conclusive of the fact. The individual was a negress, a native of Africa. The cornea of her eyes had a chalky opacity; her great toe nails projected beyond the toes three-fourths of an inch, and were half an inch thick, resembling the hoofs of an ass; her audition, however, was morbidly acute.

After making the preceding observations, about twenty-five years elapsed before I made any further note-worthy advance in this direction; but, in the meantime, I accumulated a cabinet of four hundred human crania, consisting of those of many

peoples. Upon one occasion, when in my cabinet, it became suggested to me that as a broad development of the brain indicated vigorous life, that, possibly, the depth of the brain might indicate tenacious life or high dynamis, and immediately proceeded to ascertain how the fact might be. I took from my cases two crania: one was that of a white man who had died of phthisis, and the other that of a white man who, in the vigor of life and health, was executed for murder. To the former I extended a small line from the occipital protuberance to the anterior inferior lateral angle of the os frontis, and found the space between the line and the meatus auditorius to be two-eighths of an inch. I applied the line in like manner to the latter, and found the space between the line and the meatus auditorius to be one inch and three-eighths. As the two crania were, in the abstract, of about the same size, it appeared to me that the remarkable difference between the two in the depth of the brain's base was, probably, significant of some important truth, and, hence, I resolved upon a more methodical course.

I placed on my table the crania of five white men who had died, respectively, of phthisis, and measured them as above indicated, and divided the sum of their measures by five, and found the average to be three-sixteenths of an inch. I replaced these five crania by five others of white men who died by mechanical violence, and measured them in like manner, and found their average to be an inch and three-eighths. From these measures, though but few, I could not doubt that the depth of the brain's base was, probably an index of longevity, —high dynamis. I had in my cabinet the crania of four suicides, and found their average to be within an inconsiderable fraction of that of the consumptives, and have since observed that those having a suicidal diathesis measure about as do those having a consumptive diathesis, hence, I have been forced to regard suicide as a normal death. It is, therefore, preposterous to enquire why any one committed suicide, for, at most, nothing more can be learned than the exciting cause, which very frequently is some very trivial circumstance, just as a very inconsiderable exposure of the person may excite a scrofulous diathesis into consumption.

I continued this course of investigation in my cabinet, as opportunities offered, for several weeks, to satisfy myself on many of the relations of the subject as they became suggested to me. I selected the crania of those who were, as nearly as possible, exclusively of high stimulus: in these I found the cerebellum and the base of the cerebrum to be broadly developed, but had but little depth,—all of them had died young. Amongst these was that of a Polish exile, it was the broadest in my collection. I knew him while living; he was, physically, a powerful man; his vital functions were manifested with great energy to the close of his life, which was by suicide; his brain had no perceptible depth; he lived out the last moment permitted by his organization; he was about 35 years old.

When the base of the brain is both broad and deep, the indication is a compound of the two conditions of high stimulus and high dynamis. This explains why some people of high stimulus live to be old. Of this compound constitution, General Scott is a fine example, and so was the notorious Aaron Burr. The late Professor Daniel Drake had but little of the high stimulus, and not more than a respectable portion of high dynamis, as he died at about the age of sixty-five years. The late Hon. John Randolph had less of the high stimulus condition than any other man I ever saw, but his dynamis sustained him to old age. A considerable portion of the high stimulus condition is indispensable to great action on the stage of life; and, hence, we find it to have been highly developed in Cæsar, Alexander, and Napoleon.

My cabinet investigations left me unable to doubt that longevity results from the downward development of the brain. Upon arriving at this conclusion, I directed my attention to society, and it soon became rumored that I had made a discovery by which I could tell how long a person would live. When this rumor reached the late Professor Evans, of the Ohio Medical College, he called on me and said:—"Professor Powell, I have learned that you have made a discovery by which you can tell how long a person will live; is it true, sir?" No, sir, I have not made such a discovery; but I have made one by which I

can tell whether a person will live a long or a short time; but even to this extent I am not confident, but am only so inclined to think. "Please to apply your discovery to me." Do you desire my candid opinion? "I do, sir." Then, sir, if I have made the discovery I think I have, you have but a short time to remain with us. "Oh! your discovery is all a humbug." What, if you please, is your definition of a humbug? "I did not mean that, but only you have not made the discovery you think you have." You are, possibly, correct, sir; for I have not arrived at a settled conclusion about it. The opinion I gave him proved to be correct, for in three years he was under the sod. I could present many very remarkable examples of my application of this discovery, but as they will avail nothing to my readers, I will pass on.

Early in this investigation, it became to me a question, whether this index of longevity decreased as age advanced or dissolution approached. From some observations, I was inclined to the affirmative, but, subsequently, some others inclined me to the negative; and, before I could settle the question, I became afflicted with hemiphlegia, which, in a great measure, arrested my observations. At the date of this discovery, my father was 78 years old, and his index of longevity was five-eighths of an inch; and, knowing him to have great tenacity of life, I was surprised to find his index so small, unless it had decreased, and only indicated the residue of his years. At all events, I resolved, if permitted, to watch it to the close of his life. On the 7th ult., he died at the age of 92 years, 1 month, and 20 days. I applied the line, and found no indication of longevity, which corresponded with the fact: he was dead: the line came down fully to the meatus. If I made no misapplication of the line, this case would be conclusive that this index decreases as age increases; having but one hand with which to manipulate, and the assistance of a child, I may, possibly have committed some error, though I repeated the measurement three times with the same result. But, before I conclude, finally, in the affirmative, I must have confirmation. Thus, I leave the question for others to settle.

Conceding that I have discovered the index of human longevity, the question arises, of what use is it to the medical profession? Not having had medical practice since making the discovery, my answer must consist of the evidence of those who have availed themselves of it in their practice. My observations, however, have forced upon me the conviction, that in the ratio of the index of longevity is the physiological power of the system to resist, contend with, and remove disease. Hence, it would be precedent for the physician to inform himself of the physiological ability of his patient to contend with disease; but more particularly should he have this knowledge before venturing a prognosis.

Nearly two years ago, Dr. Fox, of this city, now of California, made me a social call, and, in the course of conversation, he adverted to this discovery, saying:—"I obtained a knowledge of it from Dr. Fowler, of Cincinnati, who informed me that he acquired it personally from you; and such was his confidence in its verity that I was induced to give attention to it; and, upon becoming convinced of its truth, I resolved to make it available in my practice; and, for this purpose, I made a scale of a slip of a card and graduated into sixteenths of an inch, and attached one end of it to a line, so that when the line is adjusted, the scale depending over the meatus indicates the amount of the index. This little contrivance I always carry in my vest pocket. A few weeks since, I was called to see a sick child, about 4 years old. The case was phrenitis, and had been given up as irrecoverable by two physicians; and I found the case so hopeless that I resolved to do nothing without counsel, and sent to Cincinnati for a medical friend, in whose ability I had much confidence; but, while awaiting his arrival, I ascertained that the child's vital was six-eighths of an inch. As this was more than I had ever before seen in one so young, my inference was that he could not die but would rally and recover. My counsel arrived, examined the case, and said to me:—'We can do nothing in this case, the child will die.' 'No, sir,' said I, 'he will recover.' My friend rejoined:—'How can you think so when there is not even the fragment of a symptom in

his favor?' 'I grant, sir, that, according to all the lights of the professsion, your opinion is correct; and yet, sir, it is my conviction that he will rally and recover.' 'Please to give me the data of your confidence.' 'When the case shall have terminated I will; but, as my data is such that you cannot appreciate, I beg to decline at present.' Suffice it to say, in a week the child was up and playing with the other children. When I informed my friend that the child recovered, he was greatly amazed and demanded of me my promise. He had heard of your discovery, but knew nothing about it. When called to cases of much violence, and find this index as small as one or two-eighths of an inch, I inform the friends, before I do anything, that the case will result fatally; and in no instance of the kind have I been disappointed. I think this discovery to be of great value to the physician."

In conclusion, I beg leave to introduce another witness. Something less than a year ago, a professional friend of the author made to him the following report:—"Ever since the announcement of your discovery of the index of human longevity I have directed my observation to it, and long ago reached the conclusion that it is a reality. A few months since, Professor ——— was required to extirpate an unusually large ovarian tumor, and solicited my assistance. It was granted; and, at the appointed time, I was with him; saw the lady; examined her index of viability, and found it to be as low as three-sixteenths of an inch; and, hence, I inferred that she would not, probably, live to recover from the operation, and so informed the Professor. 'Why,' said he, 'her physiological condition is very good.' I rejoined:—'That may be, but she has not physiological ability enough to recover from such a lesion as the extirpation of the tumor will require. He requested the data of my opinion. I gave it. He rejoined:—'Is not that Powell's pretended discovery?' 'It is, sir; but I do not hold Dr. Powell or his discovery responsible for my opinion. His discovery served to guide me; but I have made a knowledge of it as much my own as it is his; my opinion, therefore, is exclusively my own.' He operated, and did it well; and, for a time,

the lady appeared to do as well as could have been expected under the most favorable circumstanecs,—but she did not live to reeover from the operation.

Any person may in an hour become satisfied of the probable truth of this diseovery, by comparing this index of those having a scrofulous diathesis with that of those who have a sound constitution.

When this index is as much as an inch, at or about adult age, there is a reasonable chance of life to four seore years; when an inch and a-quarter, five seore years, &c.

ARTICLE XXXI.

LECTURE INTRODUCTORY TO THE FIFTH ANNUAL COURSE OF INSTRUCTION IN THE CHICAGO MEDICAL COLLEGE, MEDICAL DEPARTMENT OF LIND UNIVERSITY, DELIVERED OCTOBER 12TH, 1863.

By N. S. DAVIS, M.D., Professor of Principles and Practice of Medicine, and of Clinical Medicine.

Students and Citizens:—By the arrangements of the Faculty of this Institution, it is made my duty to open the present term of instruction with a formal address.

Just four years have elapsed since I had the pleasure of delivering the introductory lecture to the first course of instruction given in this College. As that occasion marked an era in the progress of medical education in this country, by introducing into the system of American medical college instruction a principle of great practical importance, I then deemed it proper to notice briefly the opinions and action of some of the most eminent members of our profession, in relation to the defects in the general system of medical education, and the paramount importance of correcting them; and as the completion of the new and commodious college edifice in which we are now assembled, marks an important step in the progress of the experi-

ment inaugurated four years since, I shall offer no apology for recurring briefly to the same general topic that engaged our attention on that occasion.

It was then shown that the principles involved in the plan of organization and system of instruction adopted by the founders of this Institution, were neither new nor the invention of some eccentric or over-zealous medical reformer; but that they had been practically interwoven with the systems of medical education in every country on the Continent of Europe; and that they had been clearly pointed out and advocated by many of the ablest teachers and writers in America for more than twenty years past. Indeed, they are principles fully recognized and acted upon in this country, in all departments of education, except that which occurs in the medical schools. They are—

1st.—Such an arrangement of the several courses of lectures, comprising the annual college term, as will enable the student to restrict his attention, first, to the more elementary branches of medical science, and subsequently, to advance to the practical. Thereby making his medical college instruction progressive, as in all other institutions of learning, and not merely repetitional.

2d.—Such an increase in the number of professorships, and in the length of the annual college term, as will enable the faculty to include in each term a full review of all the important branches of medical science.

3d.—Such connection with hospitals as will make hospital clinical instruction an integral part of the regular college course, thereby making the instruction in the departments of practical medicine and surgery as fully demonstrative as in those of anatomy and chemistry.

For more than thirty years, the profession, through its representative men and through its State and National organizations, has urged such changes, in the organization and courses of instruction in the medical colleges, as would make them conform substantially to these propositions. Thus, the profession of Ohio, assembled in convention at Columbus, in January, 1838, discussed and adopted the three following resolutions, viz.:—

"*Resolved*, That, in the opinion of this Convention, the

sessions of the different medical schools throughout this Union are too short, and that they ought to be extended one month, and the students required to stay to the end of the term.

"*Resolved*, That the number of professorships is too few, and that ampler provision be made for teaching physiology, pathological anatomy, pharmacy, medical jurisprudence, &c.

"*Resolved*, That, if practicable, our medical schools should be so organized as that students, in their first course, should have their attention chiefly directed upon special anatomy, physiology, chemistry, pharmacy, and other elementary branches; and, their second, upon pathological anatomy, therapeutics, the practice of physic, surgery, and obstetrics."

In the *Western Journal of Medical and Physical Sciences*, for March, 1838, we find the following comments on these resolutions, by the late Dr. DANIEL DRAKE, than whom no higher authority could be quoted on such a subject. He says: "Their first resolution, however, contains suggestions in which every reflecting member of the profession must concur. That the lecture terms in all the schools in the Union are too short, is undeniable. * * * * The second resolution furnishes a strong argument in support of the first, and ought, indeed, to have preceded it in the series. It looks directly to the limited range of studies prescribed and pursued in nearly every school in the Union. Indeed, we may affirm, that there is not one in which the cycle is as comprehensive as the nature of the medical profession demands." Referring to the third resolution, Dr. DRAKE continues: "It is not only absurd, but actually injurious, for the student who has recently commenced the study of medicine, and is not yet acquainted with the structure and functions of the body, with chemistry, or the rudiments of botany, or zoology, to engage the high and difficult inquiries of pathology and practical medicine; and, in the present organization of our schools, this is constantly done. The *beau ideal* of collegiate medical instruction would be for students, in their first course, to devote themselves to anatomy, special, general, and pathological, with dissections; to physiology, corporeal and mental; to chemistry, pharmacy, and the classification of

medicines; and to so much of the history of the mineral, vegetable, and animal kingdoms as is necessary to the due understanding of the two last; and, in the second session, to give their chief attention to therapeutics, symptomatology, ætiology, practice, surgery, and obstetrics. * * * * * It is to be feared, however, that for a long time to come our brethren, who do not live in the immediate neighborhood of medical schools, will think, or at least act, differently from what is here advised; and, equally to be apprehended, that those who prescribe the policy of our institutions will neglect the establishment of junior and senior classes."

If the resolutions adopted by the Ohio State Medical Convention, and the comments of Dr. DRAKE, were just, as applied to the inadequacy of the schools, compared with the wants of the profession, twenty-five years ago, what shall we think of those schools that still adhere to the same annual college term of *sixteen weeks*, with six or seven professorships, while the actual field of investigation, requiring the careful attention of the student, has increased, at least, thirty per cent?

From the date of the Ohio State Medical Convention, to which we have alluded, to 1845, the subject of improving the system of medical college instruction in this country was frequently discussed in the several State Medical Societies. It was at the close of a protracted discussion of this subject, in the annual meeting of the New York State Medical Society, held in February, 1845, that a call was issued for a national convention of delegates from all the medical societies and colleges in the United States, for the special purpose of adopting measures in concert among all the schools. It was in response to this call, and mainly for the purpose of advancing the cause of medical education, that the American Medical Association was organized and has been vigorously sustained to the present time.

At the second annual meeting of that Association, held in Boston, May, 1849, the Standing Committee on Medical Education, of which Dr. F. CAMPBELL STEWART, of New York, was Chairman, made a lengthy and able report, in which the systems

of medical education, both in Europe and America, were carefully reviewed. After thus reviewing the whole subject, and showing the great necessity of longer college terms, better preliminary education, and more system in the order of studies, the committee presented the following distinct recommendation, viz.:—"We think much might be gained by a division of the subjects taught into two classes; one series of which might be studied during the first course of lectures, and another during the second year's attendance. The anatomy and dissections, together with chemistry, materia medica, pharmacy, and physiology, might be studied during the first session; at the close of which, examinations should be held, and certificates of acquirement given. During the second session, the subjects of surgery, practice of medicine, midwifery, and hospital attendance, with a continuation of the study of anatomy, might be insisted on. This, we think, would be a decided improvement upon the present plan, which requires attendance on all the branches during both sessions, and does not permit the student time to prepare himself thoroughly on any one of them. We urge your close attention to this proposition, which we hold to be important, and which we think would be found to work well."

In a report made at the same meeting of the American Medical Association, by a committee appointed to consider, specially, the propriety of increasing the length of the annual college terms, we find the following explicit statement:—

"The plan of four month courses of lectures belongs to the origin of medical schools in this country, and arose out of the necessities of the case. The establishment of medical lectures at all was a bold innovation; and, lest it might act as a discouragement to students, the term was made as short as possible, and limited to four months. And yet, at that time, medicine had but a moderate expansion, and scarcely made pretension to a scientific character. Since the first establishment of the medical schools, the field of medical science has changed its entire aspect. The new departments that have been developed, exceed in extent, and equal in importance, the rudimentary branches forming the original scheme of medical education.

They embrace what may be correctly designated the higher and scientific branches of education. To include them with the original courses, in lectures of four month's duration, *is wholly impossible.*"

Similar sentiments have been expressed, and corresponding changes urged upon, the attention of the schools, by able committees, at almost every meeting of the Association up to the present time. But plain as are the principles of medical education already enunciated, and urgent and numerous as have been the appeals of the profession for their practical adoption by the schools, it was not until the organization of this Institution, in the autumn of 1859, that there was any attempt to carry them fully into effect in this country.

It is true, that many of the schools had so far yielded to the demands of the profession as to add two or three weeks to the length of their college terms, and one or two chairs to the number of their professorships. In two institutions, in which the professorships were endowed with permanent salaries, the annual terms were extended to six months or more, but the number of professorships was diminished rather than increased; and in none had there been an attempt to incorporate the all-important principle of arranging the various branches into junior and senior departments.

Under these circumstances, the Faculty of this Institution, some of whom had long been indentified with the efforts to improve the whole system of medical education in this country, determined to encounter all the dangers attendant on the abandonment of long-established customs, and at once deliberately enter upon the experiment of establishing a medical college, founded on sound educational principles and, in all respects, fully equal to the demands of the profession. They adopted a regular annual lecture term of five months, with the addition of a free summer reading and clinical term of four months. They increased the professorships to thirteen, dividing the branches taught into two series,—in such a way that the junior students could restrict their attention to the first or more elementary series, and the senior students to the more

practical; thereby not only enabling the student to make his several courses of lectures progressive instead of repetitional, but also enabling him, during the whole period of his college attendance, to receive thorough instruction over a field of medical sciences twice as extensive as that covered in the ordinary college courses. They instituted daily examinations of the classes, and thorough general examinations of both junior and senior classes at the close of each lecture term. Hospital clinical instruction, both medical and surgical, was incorporated as a part of the regular college course. In a word, they boldly attempted to establish, practically and fully, what Dr. DRAKE had so happily described as "the *beau ideal* of collegiate medical instruction."

The enterprise was certainly not without obstacles and discouragements. An established medical college already existed in the city, with its alumni distributed throughout the whole North-West; and we were told that the patronage would not be sufficient to sustain two schools. Again, we were told that students could not be induced to attend a lecture term of five months, while another school in the same locality required an attendance of only sixteen weeks. It required only an accurate knowledge of the advantages of this city, as the natural centre of a vast territory, and including within itself, if properly developed, all the facilities for instruction in every department of medical science and art, to see that the first objection was entirely fallacious; and the force of the second could be tested only by actual experiment. Four years have now elapsed since this Institution, organized in the manner already indicated, began its career in rooms temporarily fitted up, not as facetiously remarked by an enemy of the enterprise, in the "loft of a warehouse," but on the third and fourth floors of an elegant block of buildings on Market street. The number of students attending the first annual lecture term was 33; the second 54; the third 63; and the fourth 81. Thus in the short period of four years, attracting a larger class than the old and justly celebrated medical departments of Yale or Dartmouth; and equal to the classes in one-fourth of the schools in the Union.

During the same period of time, by careful attention to the pecuniary income of the Institution, a museum has been filled with every needed means of illustration; a chemical laboratory, supplied with all the apparatus required in both departments of chemistry; and a library stored with more than one thousand valuable medical volumes. And, this evening, at the commencement of the fifth annual lecture term, instead of climbing three long flights of stairs to reach temporary lecture rooms, we are assembled in a new and permanent College edifice, admirably arranged for the work for which it was designed. On the first floor, is a library and dispensary room, a chemical laboratory, and the spacious lecture room in which we are now assembled. On the second floor, is a beautiful museum, and an anatomical and surgical amphitheatre. On the third floor, are the well-lighted and ventilated rooms for practical anatomy. All this we have, with a pecuniary encumbrance remaining of only six thousand dollars, payable in ten equal annual instalments.

Such, gentlemen, is a candid, though brief, statement of the origin, plan of organization, progress, and present condition of the CHICAGO MEDICAL COLLEGE, constituting the Medical Department of Lind University.

And here, while substantially dedicating this edifice to the great work of advancing the noblest of sciences; the science of alleviating human suffering and of prolonging human life; I take great pleasure in congratulating you, together with my colleagues in the Faculty, on the marked success of our enterprise thus far, and still more on the bright prospect that is opening upon the future. This pleasure is greatly enhanced by the fact, that our success has not been achieved at the expense of the medical school previously established in this city. On the contrary, her faculty has been stimulated to increased exertions, resulting in a corresponding increase in the number of students in attendance on their instructions. Hence the establishment of this Institution has already caused the aggregate number of medical students resorting to this city for college instruction to be more than doubled; while the hospitals and dispensaries, affording ample material for clinical instruc-

tion, have been enlarged and multiplied; and the means of illustration, in all the departments, have been greatly increased. Such has been, and such will ever continue to be, the effect of an enlightened and honorable competition. But, gentlemen, it is proper for me to remind you, that no medical college organization, however complete, can insure the development of accomplished and skilful physicians and surgeons, without the patient, well-directed, and earnest application of the student, during the whole period of his pupilage. The field of medical science, or more properly speaking, the field of sciences contributing directly or indirectly to a knowledge of the nature, causes, prevention, and cure of diseases is almost boundless. Some of its departments embrace the most intricate and intensely interesting problems in nature; requiring for their comprehension a mental discipline, a quickness of perception, and an intensity of application, which can be acquired only by close and protracted study. Permit me, then, to caution you against three errors, very prevalent among those persuing the study of medicine. The first is *haste*, or a desire to complete the period of pupilage in the shortest possible time.

Haste is said to be a national characteristic of Americans; and in no department of life is it exhibited more prominently than among medical students.

In Europe, the period of medical study required before becoming a candidate for graduation varies from four to seven years; while in this country, the rules of the profession and the laws of many of the States have fixed the period at three. And yet, short as this latter period is, when compared with the nature and extent of the studies required, there are many young men who manifest great anxiety to have it reduced still further; and not a few, who actually commence prescribing for the sick before they have read medical works eighteen months, or have gained even a superficial knowledge of anatomy, chemistry, and physiology.

Such haste to assume the practical duties and responsibilities of the profession, is not merely trifling with the highest interests of the sick, but it is a serious and permanent injury to the

man who indulges it. In the first place, by commencing thus early to practice, his attention is necessarily absorbed in the efforts to procure formulæ or prescriptions for particular diseases, before he has any adequate knowledge of their pathology; or even of the *modus operandi* of the medicines he prescribes. Hence he speedily, and almost necessarily, glides directly into a purely empyrical or routine system of practice, without any other foundation than the *ipse dixit* of his preceptors and his books. Again, the failures and errors he almost necessarily commits while thus imperfectly educated, greatly retards the acquirement of that public confidence which is essential to professional success. Indeed, many are the cases in which the errors committed in premature efforts to practice, have cost half of the individual's subsequent professional career to outlive. As a mere matter of self-interest, therefore, no young man should allow himself to be hurried into the practical duties of the profession, by shortening the necessary period of study, or by passing hastily over the more fundamental branches of medical science.

The second mischievous error, committed by many of those who enter upon the study of medicine, is the neglect of mental discipline and of any adequate amount of preliminary education. Without having the mind trained to processes of reasoning, or habituated to the observation and comparison of facts and the logical deduction of conclusions therefrom, they enter, at once, upon the intricate and complex study of the structures and functions of the human system, with all the modifying influences of external agents on it. The living human body involves in its organization and functions almost every law or principle embraced in natural philosophy, chemistry, and physics; while a proper appreciation of the action of exterior agents on the animal economy, necessarily involves a knowledge of the facts of meteorology, geology, natural history, and physical geography; yet how large is the proportion of young men who commence their professional study, not only without the slightest knowledge of any of these branches of general science, but without even a respectable knowledge of English grammar and

penmanship. We do not deny but that some of those, who have thus commenced, have ultimately attained a high degree of professional skill and an honorable position among their fellows. But they constitute the very few on whom nature has bestowed her choicest mental endowments; and who, consequently, would rise superior to all obstacles, however protracted and painful the task might be. Yet, even these few uniformly acknowledge that the deficiencies in their general education constituted a continual source of embarrassment, until actually supplied by eading and study, pursued at great disadvantage during hours snatched from the active duties of practice, and which should have been devoted to the cultivation of the higher and more intricate departments of medical science.

These same deficiencies, however, which constitute only impediments and annoyances to the progress of a few of the more highly gifted, stand as permanent and insuperable barriers to the progress of the many. With no independent knowledge of the natural and physical sciences, they can comprehend but imperfectly the application of the facts and laws of those sciences, in the elucidation of the causes of disease, and the nature and *modus operandi* of medicines; much less have they any basis on which to found new observations, or even to appreciate the value and bearing of such as may be forced upon their attention in the daily routine of life; and, if added to this, they have so limited a knowledge of language and literature, as to hinder them from freely expressing their views on paper, they must necessarily go through their whole professional career, as mere *prescribers* for the sick, neither satisfied with themselves, nor conscious of having made the world either wiser or better for their having lived in it. I know we are often told that all cannot become great or eminent in the profession. If by this it is meant that all cannot obtain official positions in connection with colleges and organized institutions, it is certainly true. If, however, there are not professorships or offices enough to accommodate the whole profession, it does not follow that each member may not attain a degree of professional skill and learning which would make him competent to fill any position. A

contemporary, while discussing this topic recently, comforted his audience with the assurance, that if only here and there one could attain eminence, the rest could remember that the *tall* oaks of the forest were the first to be riven by the lightning and the storm, while the lower and more obscure trees escaped unscathed.

Notwithstanding the abstract truthfulness of this figure, I think all will agree that a forest made up of stately oaks would be far more magnificent and valuable, than one chiefly composed of underbrush and saplings, with only here and there a majestic tree.

The third error, against which I wish to guard you on this occasion, consists in regarding the practice of medicine and surgery as a mere business calling, to be pursued like the various branches of commerce and the mechanic arts, simply for the pecuniary profits resulting therefrom. I do not here intimate that it is an error to receive pay for medical services. On the contrary, it is the duty of every practitioner to exact a fair compensation for his services, in all cases where the patient has the means to render it. But the error to which I allude, lies in a different direction. For instance, a very imperfectly trained mechanic may build a barn or a plain house, and receive compensation in proportion to the style of his work. Or an unskilful artisan may produce a fabric of very inferior quality, and sell it for a corresponding price; and no wrong is done to his patrons. So in all ordinary business pursuits, the varying conditions of men in society, require the exhibition of various degrees of skill with corresponding degrees of perfection in the products and results of labor. But the practice of medicine differs in two essential particulars from all other business pursuits. The first is, that every practitioner, whatever his qualifications may be, has to deal with the diseases and derangements of the same complex, intricate, and sensitive mechanism which we call the living human body. He cannot, like the mechanic, choose a subject to practice upon, whose organization is so simple as to be readily understood by a half-educated mind. On the contrary, whether educated or uneducated, skilful or unskilful, it

is the same delicate, living, sensative organization with which he has to deal. Whether clothed in rags or in silks, it is the same human form divine; the last, most complex, and most beautiful of the Creator's works.

The second difference consists in the fact, that the results of the physician's labor affects not merely the pecuniary interests and conveniences of his patients, but their health, their happiness, and their lives. The merchant may sell us a fabric we do not like, but it can be laid aside or returned, and another procured in its stead. So an unskilful architect may plan a very inconvenient house, and another may correct his errors. But a lung disorganized through ignorance of the attending physician, or a limb sacrificed by an unskilful surgeon, cannot be restored or replaced, by the highest degree of human skill. Hence, from the very nature of the organization with which the physician has to do, it is evident that the practice of his profession, differs from all ordinary pursuits. And the all imimportant truth, which I wish to impress indelibly upon your minds, here, at the very threshold of your professional career, is that you are under the highest moral obligations to so qualify yourselves, individually, as to afford every patient coming under your care, all the advantages which the present state of medical science and art is capable of affording. The question kept perpetually before your consciences, should be, not merely whether you have studied a certain number of years; or can pass an examination for a diploma; or are as well qualified as Dr. A. or Dr. B.; but whether you have so completely mastered all the facts and principles embodied in the various branches of medical science, and acquired such a degree of mental discipline as will enable you, promptly, to apply these facts and principles, with the highest attainable degree of skill, in the relief of human suffering?

Having thus explained to you the principles on which this Institution is organized, and the facilities it will afford you in the pursuit of medical knowledge; having cautioned you against undue haste in assuming the duties and responsibilities of practice; having pointed out to you the inconveniences and

often fatal effects of neglecting a suitable preliminary education; and having placed clearly before you the practical standard of acquirements at which you should aim, it only remains for me to welcome you to the halls of this Institution; to its lecture rooms, its dissecting room, museum, library, dispensary, and the wards of the Hospital so closely allied to it. To all these, in behalf of the whole Faculty, I cordially welcome you; and freely pledge to you our most zealous efforts to facilitate your progress in the laborious and important work you have before you. In choosing the profession of medicine, you have, individually, assumed a high responsibility.

In your future lives, you will not only be in continuous conflict with disease and the grim monster, death, but you will be admitted to the inner circles of human society; to the fireside and the bedchamber of the rich and the poor; to the secrets of the vicious and the virtuous; to the sacred confidence alike of husband, mother, and daughter. Hence, it becomes you to sedulously cultivate all those qualities of head and heart, that characterize the true gentleman, the polished scholar, and the unswerving and incorruptible moralist.

If you faithfully and perseveringly heed these admonitions, you will not only attain a satisfactory and honorable position in the profession of your choice, and gladden the hearts of the afflicted at the sound of your footsteps, but you will be enabled to live in the enjoyment of the highest and purest degree of human happiness, the consciouness of having alleviated the sufferings and prolonged the lives of those around you.

ARTICLE XXXII.

IMPROVED METHODS OF TREATMENT IN DEFORMITIES.

By E. ANDREWS, A.D., M.D., Professor of Surgery in Chicago Medical College.

In a former number, I gave an account of several improved methods of treatment in joint and spinal diseases. A number of important points were necessarily omitted in that essay for want of space. This article is designed to make good the deficiency. We will first consider the subject of

ANCHYLOSIS OF THE KNEE.

This condition results from inflammation, in consequence of which plastic lymph is effused upon the articular surfaces, causing them to adhere firmly together and prevent all motion. In a few cases, the cartilages are removed by ulceration, and a bony union is formed. Authors commonly distinguish the two forms, as *false* and *true anchylosis*. The word anchylosis, however, as taken from the Greek, is equally applicable to both forms; and the use of the adjectives *false* and *true*, in such a connection, is awkward and ungraceful. *Anchylosis*, in Greek, simply refers to the bent or hooked form which stiffened limbs generally assume, and has no reference to the presence or absence of bony deposits. I prefer, therefore, to divide the affection into *fibrous* and *bony* anchylosis, rather than into *false* and *true*. Practically, the bony form is rarely found, ninety-nine cases out of a hundred being of the fibrous variety. During the inflammatory stage, the patient seeks a partial relief of his pain by placing the limb in a flexed position; hence, we usually find the knee not only stiff, but flexed at an angle, or even an acute angle.

There are two objects, therefore, to be gained by the treatment: first, to straighten the limb so that the foot may be brought to the ground; and, secondly, to restore the mobility of the joint. The resistance to the straightening process, in fibrous anchylosis, is maintained by three tissues, viz.: the flexor

muscles and tendons, the shortened ligaments, and the new fibrous tissue connecting the inner faces of the joint to each other. All these obstacles will yield to steady tension; and, if the patient and surgeon think best, the limb may be perfectly straightened without any operative procedure.

In all the more difficult cases, however, the flexor tendons oppose so much resistance that it is, practically, much the best to divide them at the outset with a tenotome. We have then simply to overcome the resistance of the shortened ligaments and of the new tissue in the anterior of the joint. For this purpose, extend the leg until the tendons of the hamstrings are quite tense, and then divide them, taking care to avoid the peroneal nerve by the tendon of the biceps. The patient should be well under the influence of an anæsthetic; and, after the tendons are severed, moderate efforts may be made to straighten the limb by force. Great violence, however, should not be used, as serious and even fatal results have followed such a course. If the adhesions refuse to yield to a moderate force suddenly applied, we must next resort to gradual extension.

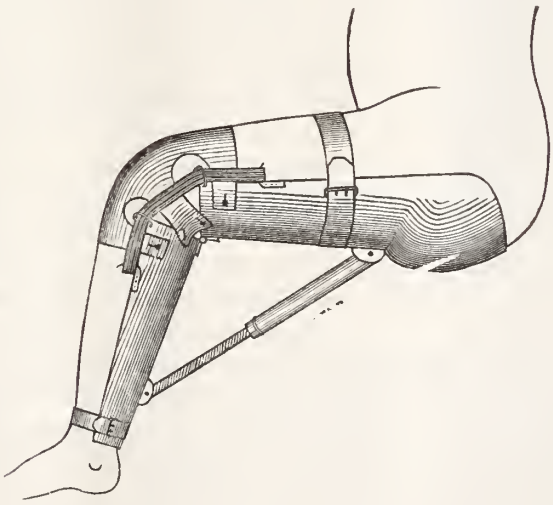

Fig. 1.

For this purpose, I use the instrument shown in Fig. 1. This

consists of a half-armor, covering the posterior portion of the limb and extending from the ankle to the middle of the nates. An extension-brace, formed by a tube and a screw, passes across the angle, for the purpose of applying a powerful force in obstinate cases; but, in more tractable limbs, the brace is removed, and the force obtained by means of the strong rubber springs on either side of the knee, attached to the upper edges of the apparatus. The knee must be kept in by a cloth knee-cap firmly strapped down, and the leg and thigh bound in by a band or two of cloth or of adhesive-straps. The principle of this splint has been in use a long time, but one or two points are new. The prolongation of the thigh-piece upward upon the nates is to get a firm bearing upon the ischium so as to avoid pressing the upper end upon the sciatic nerve, which is apt to occur in the old form figured in the text-books. Care must be taken that the edge of the instrument on the outer border of the knee does not press upon the peroneal nerve and paralyze the dorsum of the foot. If the brace is used for extension, the nut must be tightened a little three or four times a day, until the joint is quite straight. In milder cases, the brace may be removed and rubber springs left to work alone, simply being tightened a little once in three or four days. The best material for construction is sheet-brass; but, if preferred, ordinary sheet-tin will answer, and a common tinner can construct every part of it, except the nut, screw, and rubber springs.

The straightening may be accomplished commonly within two months, meanwhile daily motions of extension and flexion should be made as diligently as the sensitiveness of the joint will permit, in order to restore the mobility. This restoration of the power of motion is a slower and more tedious process than the mere straightening; but, nevertheless, if the passive exercise is continued long enough, the result is tolerably certain in favorable cases. If the anchylosis is bony, the straightening is still possible in the same way as before; but, practically, the difficulties are so great that operative interference is preferable. A wedge-shaped piece of bone may be removed in such instances, and the leg then brought down.

If the anchylosis has occurred during early childhood, with so much flexion that the foot cannot be used, atrophy takes place, and the hope of restoring a useful limb, in adult life, is sometimes futile. If the leg is a serious encumbrance, in such cases amputation must be performed.

TREATMENT OF TALIPES WITHOUT TENOTOMY.

In my former article, I referred to the fact, that nearly all cases of talipes may be cured without cutting the tendons, and that some surgeons have ceased to perform that operation in ordinary cases. As the dressings required for this mode of treatment are more easily understood by the help of an engraving, I have had a cut prepared for the sake of illustrating my meaning, and may be excused for repeating the substance of the former explanation of their application. The fundamental maxim in these cases is this: *Every distorted joint may be made to return to its normal position by steady and long continued traction.* The principle of the management of talipes without tenotomy is, therefore, very simple; but the successful application of it depends upon the patience, faithfulness, and ingenuity of the surgeon. There are also a few instances where the practical difficulties render the principle inapplicable. The appliances must be prepared by the surgeon for each particular patient, and varied to suit the peculiarities of the case; and the materials for them consist mainly of adhesive-plaster and elastic webbing. The following description may serve to convey the general idea. We will suppose it to be a case of talipes varus. The first thing to be done is to secure two firm points of traction, which will not hurt the patient. For the first, we envelope the foot in bands of adhesive-plaster, carefully adjusted, bringing their free ends under the sole and up the

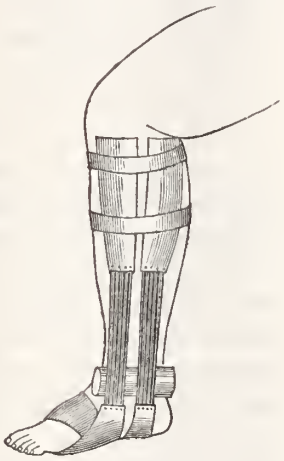

Fig. 2.

outer side. They are there gathered in one, two, or three groups, or sometimes all attached to a small rod running parallel to the outer border of the foot. The second point of tension is easily made by attaching broad adhesive-straps to the upper part of the outer side of the leg. It is convenient to arm the lower extremities of these with light buckles. The upper and lower adhesive-straps are now connected by from one to three strips of elastic webbing, which, of course, pass over the outer malcolus and tend to draw the foot to its position. A small cushion should be placed upon the maleolar region to receive the pressure of the bands. Thus prepared, let the elastics be buckled to a very gentle tension for the first few days, until the skin becomes accustomed to the presence of the apparatus, after which, they may be gradually tightened. The tension being moderately kept up day and night occasions very little pain, and the contracted parts slowly yield until the foot assumes a perfect position. Many weeks are often consumed in the treatment; but if the parents are intelligent, the surgeon need not see the child very often after the first twelve days.

Many other applications of these principles will readily suggest themselves to the ingenious practitioner, but which cannot be detailed in this brief essay.

We may truly say that, for those afflicted with spinal curvature, hip-disease, inflammation of the knee, or club-foot, a new era has dawned; and vast numbers of cases, supposed by our predecessors to be hopeless, will, in our day, be restored to soundness and perfect form.

The engraver has, in the above cut, misrepresented the malleolar cushion, causing it to look like a roller of solid wood. Of course, no one will be misled by the error. A good club-foot shoe can be made to accomplish the cure, but not so easily as the elastic bands.

BOW-LEGS.

One of the most difficult and vexatious deformities ever brought up for treatment is bow-legs. It is caused by rickets, in some instances, and in others by too early efforts of the child to walk, by which the tibia is flexed with the convexity out-

ward, and the whole limb assumes a bow form. The prineipal eurvature is usually at the point where the upper part of the tibia joins the epiphysis. There is often a slight degree of this deformity in young children, whieh disappears without treatment before the child reaehes the fourth year of its age; but in more aggravated eases, it eontinues and constitutes a permanent blemish. After a variety of troublesome experiments, I have devised the apparatus represented in Fig. 3, whieh answers the purpose perfeetly. A spring-steel band passes partly aronnd the waist being left open in front where the vaeancy is filled by straps and a buekle. On eaeh side a projeetion of the steel extends downward until it overlaps the troehanter major. To eaeh projeetion a steel strap is artieulated, extending downward to the knee, and carrying an armor whieh embraees the outer half of the thigh. At the knee another strap artieulates with a similar half-armor for the outer side of the leg. A narrow pieee of armor is also made to fit the inner side of the leg. The joints of the instrument must be made to eome aeeurately opposite the hip and knee joints; and those opposite the knee, while they move easily baekward and forward, must firmly resist any lateral flexion. For this purpose, the rivet must have a broad strong head. The whole must be nieely eovered and padded. If now the band is buekled around the waist and another be passed around the middle of eaeh thigh, it will be found that while the limb applies very well, as far down as the knee, it there leaves the armor and eurves inward. The proper pieees must now be plaeed along the inner side of the leg, and, by means of straps and buekles, be drawn outward towards the outside pieces. The spring of the steel keeps up a eonstant elastie tension; and, by daily tightening the straps, the limb will be slowly brought baek to a perfeet form.

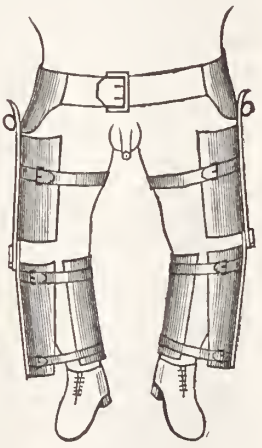

Fig. 3.

Care must be taken not to apply the straps too tightly at first, otherwise the skin will abrade and ulcerate, and the whole treatment be delayed. It will be sufficient if, during the first ten days, the instrument be worn very lightly,—just pressing enough to accustom the skin to its presence, after which, it can be made to draw more powerfully, until the object in view is accomplished.

Selections.

RADICAL CURE OF CONGENITAL INGUINAL HERNIA.

By DAVID W. CHEEVER, M.D.

[Read before the Boston Society for Medical Improvement, Sept. 28th, 1863, and communicated for the Boston Medical and Surgical Journal.]

About six months ago, I operated on three cases of congenital inguinal hernia, with a view to attempt a radical cure. All were boys of from eight to twelve years of age. One case failed at the outset, ulceration having taken the place of the adhesive inflammation which was hoped for. The other two succeeded; and are thus far, six months after the operation, well. I should have preferred to wait until a year had elapsed before bringing these cases to the notice of the Society; but finding that one of the cases had moved away from the city, and fearing to lose sight of the other, I have brought him here to-night, to show the result of Wood's operation, and will exhibit him to the Society. Before doing so, it may be best to read a short account of the operations. The boy who has moved away was operated on by Gerdy's method; the other, by that of Mr. John Wood, of London, which consists in placing subcutaneous sutures around the inguinal canal.

Case I.—Daniel S——, a healthy boy, 8 years of age, has a congenital ingenital hernia on the right side, as large as a hen's egg, when in the scrotum. The ring admits the forefinger with ease. The cord, testis, and spermatic plexus of veins are healthy. He has worn a truss, but latterly has been unable to keep the hernia up with it, and has left it off.

March 21st.—The bowels having been cleared, and the bladder emptied, he was etherized, placed on his back, the hernia

reduced, and kept up by the finger of an assistant pressing over internal ring. The skin of the scrotum was invaginated into the the inguinal canal, and with the cord lying beneath the back of the finger, the inner pillar of the aponeurosis of the *external oblique* muscle and the conjoined tendon of the *internal oblique and transversalis* were raised upon the tip of the finger, about half an inch above the *pubes*. A curved needle armed with a silver suture was now entered over the tip of the finger from above the *pubes*, carried through the conjoined tendon, inner pillar and invaginated scrotum, and thence out below the *pubes*, where the invaginating finger was first entered. The needle was now detached, and then, threaded anew with another wire, it was entered from below, passed by the outer side of the finger through Poupart's ligament, and thence across the inguinal canal, emerging at the same point above the *pubes*, where the first suture entered. The four ends of the silver suture were then passed through two holes of a large button, and clamped pretty tightly over it. The boy now vomited and strained violently from the ether, but the hernia did not come down. He was now put to bed on his back, and an opiate administered. He remained strictly in the horizontal posture, and the wound was kept wet with cold water. With the exception of some pain and tenderness over the abdomen, accompanied with but little fever, everything went on well for three days.

March 24th.—He was given some castor oil. In the night he got up unperceived, walked to the water-closet, had a large evacuation, and sat and strained a long while. Severe orchitis now supervened, which ran a course of about a week, and then gradually subsided. It was treated with cold applications and opium. There was a good deal of purulent discharge around the sutures, and a sinus opened above the *pubes*. But the sutures held on; there was no descent of the intestine, and the testicle passed out of the acute stage. Three weeks and a-half after the operation the sutures were removed. In one week more the sinuses were closed; the hernia remained up, and the scrotum well invaginated. He was now, one month after the operation, allowed to get up, and walk about the room. No truss was applied.

May 23d, *one month* after getting up, and two months after the operation, the scrotum remained firmly invaginated; the testicle painless, and about one-third larger than the other; the inguinal canal filled with a dense deposit of lymph; the hernia up, and no bulging. I have seen this boy from time to time until very recently, and he has remained perfectly relieved;

such is his state six months after the operation. I have very little fear of his hernia ever returning. He has worn no truss. He was kept in bed longer than the next case, which was let up too soon.

Case II.—William M——, 12 years old, has a congenital inguinal hernia on the right side. The ring is large, admitting the thumb without difficulty. Testicle, cord, and veins healthy; otherwise strong and active. Has worn different trusses that were made for him, but cannot keep it up with them. The difficulty is increasing as he grows.

April 13th.—After being etherized, and the hernia reduced and held up as before, an incision about three-fourths of an inch long was made through the skin of the scrotum of the right side, at its lower part. The fascia of the scrotum was now dissected subcutaneously from the skin, to which it adheres only by loose cellular tissue, for a space of about an inch and a-half in diameter all round; or until the fascia could be invaginated into the inguinal canal, without puckering the skin. The forefinger of the right hand being placed over the cord, and invaginating the fascia of the scrotum as high up into the inguinal canal as possible, a curved needle, with the eye in the point, and set on a firm handle, was next carried up along the finger, and made to perforate the *conjoined tendon* and *inner pillar* near the *internal* ring. The skin over the point of the needle was then drawn a little inwards and upwards, and it was made to emerge, when it was threaded with a silver suture and withdrawn, leaving one end of the wire projecting above the *pubes*. Next the finger was turned downwards and outwards beneath Poupart's ligament, pressing the cord back out of the way. The needle was next made to perforate Poupart's ligament, from within outwards, and as near the central point between the anterior superior spine of the *ilium* and the spine of the *pubes* as possible, and then, by drawing the skin downwards and outwards, the point was brought out at the same hole where the first stitch emerged above the *pubes*. Here a loop of the suture was retained, and the needle again drawn back. The finger being now turned upwards and *inwards*, and the needle following it, it was made to pierce the inner pillar and triangular ligament at the edge of the *rectus*, and again brought out, for the third and last time, through the same puncture above the *pubes*. The needle was now detached, and withdrawn with the finger. There were now left out above the *pubes* two free ends of the wire suture, which had passed through the inner pillar, one near the internal ring, and the other near the edge of the *rectus*

musele; and a loop, whose other end was encireling Poupart's ligament, at a point midway between the *pubes* and *ilium*. The loop and the free ends were now crossed, and brought through two holes of a button, and clamped firmly over it. Previous to this, however, it was found, on passing the finger into the inguinal canal, that the fascia of the scrotum was tightly drawn up into this cavity, that the cord and testicle were free, and that on drawing the wires, the sides of the inguinal canal were approximated to each other. As in the former case, vomiting now came on and failed to bring down the hernia, and the same treatment was adopted as before. There was no orchitis; very little pain; not a bad symptom; on the contrary, it was feared that he was not getting up inflammation enough for a cure. There was a pretty free suppuration around the stitches, and through the incision in the scrotum. The sutures were removed in two weeks and a-half, and in four days more the wounds had closed. He was now allowed to sit up and move about the chamber. The hernia remained up, and there was some induration along the inguinal canal.

May 13th.—About one fortnight after getting up, a slight protrusion was noticed at the internal ring. Examination by the finger revealed the external ring reduced in size about one-half, with firm, sharp, and defined edges, showing it to be the result of actual approximation of its walls. There was much thickening of the scrotal fascia and cellular tissue over the ring. He was advised to wear a truss, with a weak spring and a flat pad, for some weeks. Within a few days after putting on the truss he left it off several hours while moving about, and the hernia did not come down. It has never come down since. He has worn the truss at first pretty continuously, then rarely, and for the last month not at all. Being an active boy he disliked the truss, and shirked putting it on when he could. During the last few weeks he has done heavy work, assisting in putting in coal, &c., without the truss, and with no bulging, or feeling of weakness in the groin. He considers himself well, and I think he is.*

These cases were operated on with silver wire,—the third case, which failed, with silk ligatures. Dr. Wood now gives the preference to the metallic suture. The instrument used

* When shown to the Society, the appearance of the parts was as follows:—A linear cicatrix on the right of the scrotum, and a slighter round one above the pubes. A little fulness along the course of the inguinal canal of the right side, and some induration. The testes alike, and the cord free. No puckering, or invagination of the skin of the scrotum. A small external abdominal ring can be felt. Not the slightest bubonocele—*six months after the operation.*

was not unlike an aneurism needle, with the eye in the point, and the latter somewhat sharpened.

Neither of these children were able to keep up their herniæ with a truss; or were benefited by one when worn, although fitted by the best makers of these instruments. It is extremely difficult to keep a truss well-fitted on a young, restless, and growing child; and we are inclined to think that the cases in which a hernia with a large ring, or a congenital one, is cured by a truss, are few in number, and the exception rather than the rule.

The opportunity which a subcutaneous dissection of the fascia over an enlarged ring affords for the anatomical study of the internal parts, is not the least interesting feature of this method of operating. Many things become very plain and palpable, which cannot be felt through the skin; such are the conjoined tendon, Poupart's ligament, the crural canal, the external iliac artery, &c.

In Gerdy's method, the skin covering the sac is invaginated and held in that position by a ligature thrust through the intercolumnar fascia and skin of the groin, till adhesion takes place at the point of ligature. The method proposed by Wützer, substitutes for the finger of the operator a wooden plug variously modified, with the intent to fill the canal and openings, and to stretch them so much as to set up adhesive inflammation all round the invaginated sac. The danger of peritonitis, which is regarded by many as a serious objection to any operation of this kind, may be considered as pretty nearly equal in all. But the results of numerous cases operated on seem to prove that the danger is by no means great, nor sufficient to deter the surgeon from endeavoring to cure this common deformity. "A much more awkward objection," says Mr. Wood, "is drawn from the inefficiency of these methods. In all the cases of Wützer's operation which have come under my observation, the result has been unsatisfactory; the rupture redescending on leaving off the truss." He goes on to enumerate the causes of failure as follows:—

The inefficiency of the steps taken to cause adhesion of the surfaces of the posterior fold of the invaginated sac together, and to the posterior wall of the canal. Into this fold, forming thus a secondary sac, the descent of a knuckle of intestine is imminent.

The action of the plug is to dilate the opening and the canal, instead of contracting them; the external ring and canal being left very patulous after Wützer's operation. The elastic

reaction of the skin and the weight of the testis and scrotum tend, consequently, always to drag down the invaginated tissues.

In order to avoid these sources of failure, Mr. Wood thought better to proceed upon a principle directly opposite to that of dilatation, namely, that of *drawing together and compressing by ligature the abdominal opening and inguinal canal, so as to cause their sides to adhere together.* And he also thought best to give the operation *a subcutaneous character*, so as to reach to a higher point within the canal, and to lessen the bulk of the transplanted tissue. These two principles combined he claims to be new in the cure of hernia.

The results intended to be obtained may be briefly recapitulated as follows:—

The posterior and superior boundaries of the dilated canal are drawn forwards and downwards towards Poupart's ligament, and become united by inflammatory adhesion, in the area of pressure exercised by the ligatures, to the anterior and inferior boundaries. By the use of the two ligatures this takes place from the internal opening above, to the external ring below. The effect of this adhesion is to make the posterior wall act like a valve, excluding the bowel by closing against the anterior wall. This action is aided by the contraction of the cicatrized tissues, and increased by the subsequent downward traction of the testis and scrotum. In this way we have an assurance that the older the cure and the more the pressure, the greater the mechanical resistance and security against the return of the protrusion. The spermatic cord is embraced by the contracting tissues in the groove behind Poupart's ligament, which protects it from undue pressure.

In his work on Hernia, just published,* Mr. Wood gives the result of his operation in *sixty cases.* There was but one death, and that from pyæmia. There were forty-two cures; thus giving about 70 per cent of *successful* results. Many of these were children, and many, also, adults. A considerable number of the latter worked as sailors, coal-heavers, and dock-laborers without trusses, after the operation; and they were kept under observation during a period of a year, or more. It is reasonable to consider the danger of the operation less in a hernia the result of strain, than in a congenital one; for in the latter case we necessarily traverse the peritonial sac, and in the former we may not. This operation has also the advantage of render-

* On Rupture, Inguinal, Crural, and Umbilical; the Anatomy, Pathology, Diagnosis, Cause, and Prevention; with New Methods of effecting a Radical and Permanent Cure. By John Wood, F.R.C.S., &c. London, 1863.

ing a truss more efficient, even if it does not eure the hernia. For it leaves the rings smaller and the walls of the inguinal canal nearer together than they were before.

Mr. Wood has introdueed some modifications of his method since these operations were done. But the essential prineiple is the same; to elose the inguinal eanal and both rings by approximation, and inflammatory adhesion. And this eertainly seems the most reasonable method of attempting a radieal cure.

REPORT OF THREE CASES OF AMAUROSIS PRODUCED BY TOBACCO.

By J. C. WORDSWORTH, Esq., F.R.C.S., Surgeon to the Royal London Ophthalmic Society.

Reprinted from the "London Lancet."

Case 1.—W. A——, aged 21, a elerk, residing at Liverpool, came to the Royal London Ophthalmic Hospital in 1861, on aeeount of partial loss of sight in both eyes. He is a strong, healthy-looking, rather little man. Has always had exeellent health, and never suffered from syphilis. His employment is principally in the open air, as he is engaged in clearing vessels at the Custom House, &e. For some years he has smoked, having gradually inereased from two or three pipes per day, until he has reached the enormous amount of a pound to a pound and a-half of strong tobaeeo in the week; and for some time has rarely been without his pipe half an hour in the day. For a long period his sight has gradually failed, till he ean only see to read, for a short time, eharaeters of one-third of an inch. Though he has had misgivings that his ailment proeeeded from tobaeeo-smoking, he has eontinued the habit to the present time, and is now daily beeoming more blind.

Both pupils are rather large, but the motions of the irides are aetive. By means of the ophthalmoscope, both optic nerves appear of brilliant white eolor, their areas being enlarged, and their outlines irregularly defined.

Case 2.—J. M——, aged 36, a railway servant, eame to the Ophthalmic Hospital, on account of dimness of sight in both eyes, about June, 1862. He is a tall, museular, rather pale man, and says he has always had good health. He is employed as a signal-man, and has been aecustomed to beguile his time by smoking all day long. For an uneertain time he has noticed his sight to be gradually failing, and attributed the defeet to the use of tobaeeo. He has still continued to smoke to the

present time, and his sight has now become so imperfect that he is unable to attend to his business. He has never had venereal disease of any kind, nor has he used his eyes much for close vision.

The pupils are considerably dilated, and not much influenced by light. The fundus of each eye seems quite normal, with the exception of the optic discs, which appear too large, and irregularly circular, the tissue being quite of tendinous whiteness.

Case 3.—G. A——, aged 28, a butcher, residing in Essex, applied at the Royal London Ophthalmic Hospital, March 25th, 1863, on account of failing sight in both eyes. He is a stout, strong, middle-sized man, having every appearance of health, and says he has had excellent health all his life. He began to smoke about eight or nine years ago, moderately, but, gradually increasing, has now for some time been in the habit of smoking half an ounce of strong tobacco every day, apparently without any ill effect. About nine months since, his sight began gradually to fail, and has continued to get worse to the present time. He has always been temperate as to the quantity of beer, &c., which he has taken, and has never drunk spirit habitually. He is a married man, and has three healthy children. Has never suffered from syphilis, nor has he used his eyes much at any trying occupation. With the exception of both pupils being rather large, and the motions of the irides sluggish, he has no external appearance of any ailment of the eyes. He can only see to read No. 18 test-type (canon) with his left eye, and with the right No. 16 (two-line great primer), word by word; and distant objects are equally indistinct.

The ophthalmoscope demonstrates an atrophic condition of both optic nerves, the inner (apparent) half of each, seen in the reversed image, being quite white and non-vascular; the outer part being redder, and more vascular than normal.

Within the last three years I have seen a considerable number of cases of amaurosis, apparently produced by the influence of tobacco. I admit (I need scarcely say) how difficult it is to reduce the etiology of this obscure affection to a demonstration. For, in the first place, amaurosis is attributed to a vast variety of causes, many of which are always more or less in operation; then, again, the disease is dependent on a similar variety of *pathological conditions;* and, lastly, our knowledge of the physiology as well as of the pathology of the retina and brain is so limited that we can ill appreciate or define the influence of physiological agents on their structures and functions.

No one can doubt that tobacco possesses properties that are

eapable of produeing great effeets on the nervous system at large, nor that the habitual use of it has much influenee, of an indireet nature, on the vital reaetions. Our only wonder is, that the almost universal employment of this powerful agent does not leave vestiges of its influenee that are better known and reeognized as signs of disease. This may be aeeounted for to some extent by the rapid eadaverie changes that oeeur in the nervous elements, thus obseuring or effaeing diseased states before we have the opportunity of reeognizing them.

All the elassie writers attribute its full share of eausation to tobaeeo as a souree of amaurosis; yet I have not met many that are willing, individually, to allow that they have traeed its influenee. But it has often happened that the eauses of disease are long unreeognized by many, after as full a proof has been made of their reality as possible. For instanee, it is reeorded of one of the eauses of iritis (that every one now allows) that for many years it was not admitted by men of vast experienee that any closer relation than that of eoineidenee existed between it and syphilis; yet so great has been the revulsion of opinion that some eminent men now seem to think it never oeeurs exeept in eonnexion with that contamination.

I have seleeted the eases above sketehed to illustrate this subjeet, beeause they seem to be as free from the unavoidable fallaeies that eneirele this subjeet as possible. Many have eome under my notiee in whieh I eould not find any other eause to aeeount for the eonditions; but few so typieal of the atrophy of the optie nerve, or so advaneed. It is obviously desirable to eite well-marked eases. Many of those observed gradually merged into less definite eonditions, and were only eorroborative, rather than eonelusive. Again, many were so fettered with other eomplieations that I eonsider them inapposite for my present purpose. All the eases that have eome under my observation have (as might probably be expeeted) been in males. It will be notieed that only one pathologieal eondition was seen in these three eases,—namely, that of white atrophy of the optie nerves. I am not prepared to assert that tobaeeo produees blindness in this way only; but in all my eases I have reeognized this eondition in a great or small degree.

I may antieipate that I shall be asked, How ean it be that of the hundreds of thousands of smokers, only so small a proportion are affeeted by amaurosis? I should reply, first, that few probably smoke to sueh exeess the strongest tobaeeo; in the seeond plaee, we are not yet in a position to reeognize the smaller degrees of tobaeeo-disease; and, thirdly, as Dr. Mac-

kenzie has aptly observed, only one of five hundred shall become amaurotic, in whom a stronger predisposition to the disease had existed.

Secondary syphilis affects the retina, and leads to amaurosis; but of the thousands affected how few become blind!

Then it has been suggested that I ought to show that amaurosis is most common where smoking is most general. To this I reply, it is impossible so to estimate and proportion the other recognized causes of amaurosis so as to enable us to compare them with the effects of tobacco, and thence deduce any relation. But so far as probability warrants, I think there may be some conclusion to this purpose deduced from the greater frequency of atrophy of the optic nerves in men than in women, (of which I suspect there is little doubt,) though the other causes of amaurosis are more likely to affect the latter,—for instance, needlework, &c.

Dr. Mackenzie, in his great work on Ophthalmology, expresses his belief that tobacco is a *frequent* cause of amaurosis, and adds that "one of the best proofs of tobacco being a cause of amaurosis is in the great improvement in vision—sometimes complete restoration—which ensues on giving up the use of this poison," and cites a very striking case in illustration. With him I agree also in the conviction, that tobacco is a common cause of the cases of partial loss of sight that are daily to be found at our hospitals.

Queen Anne Street, 1863.

ON INFANTILE PARALYSIS.

By HOLMES COOTE, Esq., F.R.C.S., Senior Assistant-Surgeon to St. Bartholomew's Hospital, and Assistant-Surgeon to the Royal Orthopædic Hospital, Lecturer on Surgery to St. Bartholomew's Hospital.

Reprinted from the "London Lancet."

The description of the disease termed "infantile paralysis" is, I think, generally defective in two particulars; first, it is regarded as a morbid affection standing somewhat apart from other diseases of the nervous system; secondly, the description does not include those final and secondary changes in the muscular and osseous systems which produce contractions of limbs, deformities, or even complete loss of power.

The Orthopædic Hospital affords a very ample field for the investigation of this subject, about 80 of every 1000 patients being instances of the affection in some one of its varied forms;

and I must here state, that the cases which come under treatment appear to me to be the survivors of a yet larger number, many of whom have perished from the violence of the symptoms at the first attack. I cannot, therefore, look upon it as a "disease not dangerous to life;" although it is true that many survive, bearing upon them, nevertheless, in their withered and contracted limbs the traces of the severity of the shock they have sustained.

In speaking of this class of nervous affections, I must limit the terms of "infantile paralysis" to one of the effects produced by the functional disturbance of the nervous centres; for, as must hereafter be shown, muscular atrophy and general loss of temperature and power express, in a very rough way, the complications with which we have to deal. Atrophy may be limited to one muscle, or to a set of muscles; there may be contraction of the limb either with or without atrophy; the direction of the contraction varies extremely.

Respecting the condition of the brain and spinal cord, I need scarcely observe that the absence of any recognized morbid change of structure in those cases in which we have the opportunity of making a *post mortem* examination is rather to be regarded as an instance of our defective means of observation than as a proof that no such morbid change exists. Of the truth of this statement, tetanus offers a well-known proof. Morbid anatomy has hitherto revealed nothing satisfactory to explain the phenomena which occur during life. The same remark applies in general to cases of infantile paralysis. But in one case a deposit of tuberculous matter was found in the membranes of the brain about the cerebellum; and in another, an impacted calculus seemed the cause of the disturbance by its reflex irritation. The most common exciting cause is the irritation of first dentition; but I have known the same effect to be produced by the second dentition, and have witnessed symptoms of analagous character, though not so strongly marked, in the adult. A young lady, twenty-two years of age, whose teeth were crowded together and partly decayed, experienced occasional attacks of numbness and loss of power in one upper extremity, recurring at intervals, until she had been relieved by an experienced dentist of the stumps of a number of decayed teeth, which had been the source of pain. But the attack may be quite sudden, without any recognized premonitory symptom. Thus an infant at the breast will appear to have momentary faintness, or may be taken up by the nurse as usual after an apparently uninterrupted night's rest, and in both instances the limbs may be found paralyzed.

On May 7th, 1863, I saw a boy, aged 8, at the Orthopædic Hospital, in whom the left lower extremity was smaller in circumference, shorter, and colder that the opposite, the foot being in the position known as equino-varus. His mother gave the following history:—At two years of age, when to all appearance well, he suddenly fell down stairs from a landing whereon he was playing. When taken up, it was found that the limb had lost all power, and he has never walked since.

On the same day I saw another boy, Henry M——, aged 4, suffering from talipes equino-valgus of the left limb. The mother said that the child began to walk when about twelve months old. He was then, to use her own words, "taken off his feet" by vomiting and purging. For two years he was quite unable to walk. He was galvanized at another hospital, but without avail. After a time, he became stronger in the back, and could sit up; finally, he recovered the use of all the limbs, except the left lower extremity, which has continued weak, cold, and deformed. The limb is smaller than the opposite in circumference by a quarter of an inch, and shorter by half an inch.

The same effects have been referred to the influence of eruptive disorders on the frame. On May 18th, 1863, I saw a boy, named Richard G——, aged 6, suffering from talipes equinus. The mother said that six weeks after having had the measles he went to bed as usual. The next morning she found the right leg completely paralyzed. After a time, some power returned in the muscles of the calf, and the heel was drawn upwards. The limb was smaller in circumference, but not materially shorter.

I do not believe that "talipes equinus" is ever congenital as a deformity. Now, there are two classes of cases, which, though allied as indicating disturbance of the nervous centres, and in both instances followed by contractions of the limbs, are yet separated by important points of difference. In the first, the limbs are spasmodically contracted, the thighs and legs bent, the heel raised, and the movements are irregular, but there is neither atrophy of the limb nor diminution of temperature. In the second, the heel may be raised or the foot otherwise turned; but the limb is shorter, smaller, colder, and wasted. In the first, the muscular degeneration and conversion into fat is a slow process, extending over many years. In the second it is rapid, the growth and development of the limb being arrested from the very moment of the stroke. I believe the first to be an instance of disturbance of the control of the

will over muscular power from *cerebral* irritation, such as would be excited by the deposit of tuberculous matter in the membranes about the cerebellum: the second to be an instance of lesion of the *spinal cord.* And, although no very clear line of demarcation can in all cases be drawn between the two, yet we find that in the first class of cases the patients are often morbidly excitable, irritable, and prone to laugh or cry; while in the second class, after the first symptoms have subsided, the functions of the brain do not seem to be affected.

I fancy that in these cases of cerebral disturbance there is often a congenital defect, the development of the brain and the manifestation of the intellect being imperfect. I am now attending the daughter of a lady, whose case illustrates this point. The child is about 10 years of age, and she was put under my care in consequence of her ungainly walk, the knees being slightly bent, and the feet having an inclination inwards. I found that the muscles of the calf were so much contracted that at the foot was held at right angles to the leg, and the heels came with difficulty to the ground. The control of the will over the muscles generally was imperfect. The child could learn a short lesson, but was not studious; was subject to violent fits of temper, and never had shown affection for any about her. The general aspect was such as warranted a prediction that these peculiarities might become stronger with age.

The ultimate effects of infantile paralysis, dependent on lesion of the spinal cord, as it affects the limbs, are as follows:—

In by far the greater number of cases the loss of power is in the lower limbs. At the commencement, the paralysis may be general and complete, but usually all the limbs save one recover as mysteriously as they were attacked. Neither sex nor side of the body seems to exercise any influence. Boys and girls, right and left side of the body, suffer equally. But the paralysis is rarely complete: the foot rarely hangs powerless; usually the muscles of the calf retain some power, and pull up the heel (talipes equinus paralyticus): or the foot may incline inwards (talipes equino-varus); or the muscles of the calf and the peronei may pull it outwards (talipes equino-valgus); or, finally, the anterior tibial muscles may overcome the paralyzed muscles of the calf, producing talipes calcaneus.

As patients grow up, the great annoyance which they experience is the liability to sprains. All the ligaments are weak and elongated; and if a person so afflicted tread on a stone or any rough body, he gives the limb a twist which lays him up for days.

The affection may be limited to an upper extremity, in which case, usually, the deltoid muscle becomes paralyzed, and the humerus drops from the socket; or, in rarer instances, the muscles of the upper arm become wasted, the forearm being well formed as usual.

There are cases in which the affection comes on slowly and progressively; others in which first one limb and then another is attacked, but these are comparatively rare. I saw a boy, aged sixteen months, in whom the right heel had been drawn up when the child was five months old. That attack passed away; at the present time (May 18th, 1863) the left heel is contracted.

In all these cases, the treatment consists in an attempt to remove the source of irritation, whether it be seated in the brain or spinal cord, or whether there be any amount of reflex irritation. As a general rule, tonics are not indicated; but purgatives and small doses of tartar emetic often relieve symptoms. The temperature of the limb must in all cases be carefully maintained; and when, finally, the contraction has become permanent, the proper tendons should be divided, and elongated by subcutaneous tenotomy and extension, the foot being held in proper position by the aid of irons. The details of this treatment would lead me into particulars which are already well known to the profession, and which require modification according to the nature of the case.

Queen Anne Street, Cavendish Square, 1863.

ON THE TREATMENT OF MALARIOUS FEVER BY THE SUBCUTANEOUS INJECTION OF QUININE.

By W. J. MOORE, L.R.C.P.Ed., Bombay Medical Service.

Reprinted from the "London Lancet."

Since the year 1858, when Dr. Wood brought forward the hypodermic method of administering morphia, the plan has been extensively tried. Moreover, the results following the injection of morphia into the subcutaneous areolar tissue have, on the whole, been satisfactory, and the use of the alkaloid in this manner has now become an established practice in various obstinate neuralgic disorders. Other agents, as atropia, have also been used hypodermically with varied success, and I have latterly employed a strong solution of quinine for the cure of

intermittent and remittent fever by the method of subcutaneous injection.

The success which has attended the practice renders me desirous of calling attention to this novel mode of using quinine. I have so employed the remedy in upwards of thirty cases of intermittent fever, and in several cases of remittent, and with almost invariable success, the former class seldom requiring a second application, the latter generally subsiding after the fifth or sixth injection. Since the period I commenced to use quinine in this manner, I have been surprised and pleased to find in one of the medical periodicals that the same plan has been pursued by Dr. Chasseaud, of Smyrna, who reports 150 cures, and especially recommends the system in fever complicated with gastric symptoms, when the exhibition of quinine by the mouth is often "inefficient, difficult, and hazardous."

I use the strongest solution of quinine which can be prepared —viz., thirty grains of quinine, eight or ten drops of dilute sulphuric acid, and half an ounce of water. Of this I inject from half a drachm to a drachm, the former quantity containing some four grains of the active agent. With the exception of a little sulphate of soda, if the bowels are confined, I use no other remedies whatever in uncomplicated cases of any type of malarious fever. When the spleen is enlarged, or if a leucocythemic condition is present, I prescribe, as an additional curative agent, one or other of the preparations of iron—very frequently the citrate of iron and quinine.

I generally inject beneath the skin over the outer belly of the triceps extensor muscle, and sometimes over the deltoid. I have, however, used the syringe with equal effect on the thigh and calf, and in cases of enlarged spleen have thought the action of the remedy increased by injecting over that organ. I use a small glass syringe with the screw action, and furnished with a sharp silver point some half an inch in length. The latter is introduced beneath the integument half an inch or less, and the pain is not greater than the prick of a pin. Indeed, patients have frequently declared they would rather submit to this process than taste the bitter of quinine. I have never seen the slightest inflammation or irritation follow the operation except in two instances. In one of these this result was due to the instruments employed—namely, a small trocar and common glass syringe; in the other, to quinine in *suspension* being used instead of in *solution*. Indeed, I have reason to think that quinine in suspension is very irritating to the tissues, and this is what physiology would lead us to expect, as it is certain that

when a fluid material is introduced into the areolar structure, it will be absorbed more directly than any solid mass could be. Therefore, to avoid irritation of the parts, and, also, to prevent "choking" of the syringe (and which instrument was procured from England), I insist upon a perfectly clear solution of the alkaloid.

The best time to inject is shortly before the expected cold fit, but it may be done during the first stage with the effect of lessening and somewhat stopping the whole paroxysm. Latterly when a patient presents at the morning visit, who expects an accession during the day, I have injected at the time, and nearly invariably the fever has stopped.

In cases of remittent I have endeavored to inject during the remission, but do not wait for this period. In severe cases the injection should be repeated at intervals of six or eight hours.

I believe four or five grains of quinine injected beneath the integument are equal in their effects to five or six times that amount taken into the stomach; also, that the effects are more certain than when taken in the ordinary method; and, also, that relapsing attacks are less common than when the remedy is administered by the mouth.

Bombay, 1863.

Book Notices.

The Pharmacopœia of the United States of America. Fourth Decennial Revision. By Authority of the National Convention for Revising the Pharmacopœia, held at Washington, A.D., 1860. Philadelphia: J. B. Lippincott & Co. 1863.

This is a thoroughly revised, much improved, and neatly printed edition of the U. S. Pharmacopœia. Instead of attempting to enumerate the several important changes and additions made in this edition, we will simply say, that the Committee of Revision was composed of men thoroughly qualified for the duties assigned them, and they have performed their task well. The present volume is a small-sized octavo, containing about 400 pages, on good paper and excellent type. Price, $1.00. For sale by S. C. Griggs & Co., of this city.

A Manual of Instructions for Enlisting and Discharging Soldiers: with special reference to the Medical Examination of Recruits, and the Detection of Disqualifying and Feigned Diseases. By Roberts Bartholow, A.M., M.D., Assistant-Surgeon U. S. Army; Surgeon-in-Charge of McDougal General Hospital; Professor of Military Medical Jurisprudence, Army Medical School. Adopted by the Surgeon-General for issue to Medical Officers of the Army. Philadelphia: J. B. Lippincott & Co. 1863.

This is a small-sized octavo volume of 276 pages, published in the well-known neat and attractive style of Lippincott & Co. The scope and objects of the author are pretty well indicated in the titlepage, as copied above. The work is divided into the four following sections:—

"Real Disqualifications for Military Service."

"Pretended Disqualifications for Military Service."

"Enlisting Soldiers."

"Discharging Soldiers."

From a very hasty glance at the matter and style of this work, we should think it sufficiently full and plain for all practical purposes. To those who are engaged in examining men, either as candidates for enlistment into, or discharge from, the Army, it is an exceedingly convenient manual; while it will be found useful for reference in the library of every practitioner. For sale by S. C. Griggs & Co., Lake Street, Chicago.

Editorial.

MEDICAL COLLEGES IN THIS CITY.

The regular annual course of lectures in the Rush Medical College was commenced by a general introductory, delivered on the evening of the 1st of October, by E. Ingalls, M.D., Prof. of Materia Medica.

The lecture was well written, and contained many judicious suggestions to the class, and was listened to with pleasure by the audience. The number of students in attendance, was stated to be fully equal to that present at the commencement of any previous session.

The fifth annual course of instruction in the Chicago Medical College, began on the evening of the 12th of October. The general introductory lecture was delivered by the Professor of Principles and Practice of Medicine and of Clinical Medicine, and may be found in full in another part of this number of the EXAMINER. A larger number of matriculants were present than at the commencement of any previous term. After the lecture and the usual notices in relation to the several hours of lecturing, the hospital clinics, &c., the rooms of the new building were thrown open for examination.

All appeared to be well pleased with its arrangements, and with the general indications of a prosperous and useful collegiate year.

INDICATIONS OF PROGRESS.—The editors of the *Chicago Medical Journal*, neither of whom have paid the slightest attention to any medical society in this city, during the last ten years, nor taken any part in the State or National Associations for more than three years, are just now amusing their readers with editorials gravely setting forth the importance of medical societies and associated medical investigations. Is it possible that these gentlemen begin to realize the legitimate effects of their past indifference and selfish exclusiveness; and, especially, of their illiberal course towards the recent session of the American Medical Association in this city?—And do they hope quietly to escape from their present unenviable position under a profusion of editorial verbiage and pretended zeal for medical associations?

If so, we wish them speedy success; and hope they will immediately reduce their professions to practice, by either actively and cordially sustaining our present City, State, and National Medical Societies, or effecting the organization of others of a better character. We trust the various *Ship Canal* projects of the country are sufficiently matured to enable them to devote, at least, a part of their spare time to the interests of medical societies.

Chicago Medical Society.—This Society, which has maintained an active and useful career of more than ten years duration, holds its regular meetings in room No. 9, in Larmon's block, on Friday evening of each week. The meetings are well attended, and are devoted exclusively to the cultivation of medical science and practice. The reading of papers; the reports from the standing committee on the sanitary condition of the city; the discussion of questions specially selected for that purpose; and the relation of cases, occupy the time and constitute the doings of the Society.

At the meeting, on the evening of the 23d ult., Dr. Paoli presented an ovarion tumor recently extirpated from a patient, which was composed of several large cysts or sacs, from which was taken eight or ten gallons of serous fluid; and of several solid fibrous tumors aggregated together, weighing without the the serum, between six and seven pounds. The bulk of the solid part of the tumor rendered a long incision through the abdominal walls necessary, and though several adhesions existed, the extirpation was effected without much difficulty. The patient continued to progress favorably for the first few days, but subsequently, sunk under symptoms of peritoneal and phlebitic inflammation.

Dr. Davis, inquired whether any member of the Society had investigated the reported cases of ovariotomy, with a view to determine the relative fatality of cases in which the tumors were wholly made up of cysts containing fluid, as compared with those in which the tumors were partly solid and the fluid in the cystic portion thick and turbid? In the few cases, that had come under his own observation, those of the latter variety terminated fatally, while those of the former recovered. But those cases were too few to justify any practical inference, and he had made no general examination of the subject. He did not mean to convey the idea, that the difference in fatality depended on anything connected with the operation for extirpation of the tumors, but on the difference in the constitutional condition of the patients accompanying these two classes of cases. Remarks were made by several members, when a vote

of thanks was tendered to Dr. Paoli, for the interesting pathological specimens presented; and the regular question for discussion taken up, as follows, "Is retarded disintegration or metamorphosis of tissue equivalent to positive nutrition?" The discussion related principally to the action of alchol on the healthy animal economy, and was continued with much interest until a late hour.

Matter for Reflection. — We copy the following letter from a recent number of the *Medical and Surgical Reporter*, of Philadelphia. The facts set forth need no comment from us. We commend them to the special consideration of the editors of the *American Medical Times*, and of the *Chicago Medical Journal*. When heartless tyranny takes the place of true efficiency; when official insolence is mistaken for professional dignity; and arrogant pretension supersedes scientific acquirements, then humanity is made to blush with shame:—

UNNECESSARY AMPUTATION OF THE LEG—TETANUS—DEATH.

Washington, D.C., May 13, 1863.

J. V. P. Quackenbush, M.D., Surg.-Gen. S.N.Y.

Sir: Friday morning last, I was invited by a nephew of Senator Wilkinson, of Minnesota, to call at the National Hotel, in this city, to see Col. Newman, of the 31st New York Volunteers, who had reached there from the battle field, wounded. I called about nine o'clock a.m. No physician had been there; none had seen him since his arrival from the battle field. I found that he had been wounded in the left foot by a grape-shot, on Sunday, 3d of May. The ball had passed obliquely upward from the left side of the foot, crushing the anterior part of the tarsus and lodging just under the skin, but not involving the ankle joint. The ball had been removed, as the Colonel told me, from 12 to 15 hours after the injury was received. The surgeons, including the Division-Director, decided that the foot could be saved, and the Colonel was sent to this city on a stretcher, and arrived about an hour and a-half before I saw him.

The opening was about two and a-half inches transversely across the foot; the foot and leg nearly to the knee hot, dry, and shining with inflammation. No appearance of suppuration;

painful. Notwithstanding this, I told the Colonel that I concurred entirely with the surgeon in front, as to the probability of saving the limb. I recommended quietude and cold applications; washed out the wound and dressed the foot. I met Senator Wilkinson soon after my return, and he called my attention to the case, expressed himself pleased that I had called, and hoped the foot of the noble Colonel might be saved.

In the evening of the same day I called again, but Colonel Newman informed me that an army surgeon had been in, and with an omnious shake of the head had said, that the foot must be amputated. I advised, as a friend, against amputation, and the Colonel was hopeful, very thankful for the encouragement, and desired to place himself in my charge. The foot and leg was yet in a high state of inflammation; the evaporation produced by the cold lotions had somewhat relieved the pain and tension and the inflammation was gradually subsiding. Each day until, and including the 11th, I called and washed and dressed the wound twice a-day. On the fourth day, the inflammation had very considerably abated, and suppuration had commenced. The wound in the skin and soft tissue had begun to granulate, the whole appeared healthy, and the constitutional symptoms had subsided. The Colonel's appetite was good, he slept well, and experienced little or no pain, except when the limb was moved. I had not changed my previously expressed opinion as to saving the limb, but the result of the treatment confirmed me in the belief that the chances of life were better without amputation than with. Dr. Spencer, of Watertown, Dr. Green, of New York city, and five army surgeons of good standing and experience, who saw the Colonel, and the wound, expressed opinions very similar to my own. The Colonel assured me that in several instances the same opinion that I had advanced was expressed, and that the chances of life were better by waiting than by amputating the limb.

On the 11th, I learned from the Surgeon-General of the United States, William A. Hammond, on whom I had called on business connected with my going to the army of the Potomac, that he objected to my visiting Col. Newman in any capacity, even as a friend,—that the National Hotel, at which the Colonel was stopping, was located in a certain district in Washington, and that an army surgeon had charge of the district, and that the patient belonged to such surgeon, and that I had no business to call in any capacity. The Colonel told me the same day, that he was fearful the army surgeons would take off his foot that day; they had told him the evening previous, that he

must take a good night's rest, and he thought it was omnious of their intentions. I learned from another source that it had been determined to take off the Colonel's foot the following day, and I declined to call again. On the evening of the 11th, I received the following note:

Dr. SWINBURNE:—Dear Sir,—Will you oblige me by calling this evening. I learned, this afternoon, that some matters of professional etiquette would prevent your calling, and I therefore invite you. You were the first surgeon who visited me after my arrival in this city, and you gave me permission to call on you at any time, night or day. I take the liberty of holding you to your offer. Yours respectfully,

(Signed) LEOPOLD C. NEWMAN,
Lieut.-Col. 31st New York Volunteers.

NATIONAL HOTEL,
Washington, D.C., May 11, 1863.

In compliance with the note I called, with Dr. Spencer, of Watertown, N. Y., and found the Colonel in a state of great excitement. There had been a consultation of surgeons at his room that afternoon, and they had decided to operate, stating that they should have done so before had they not had so many cases to attend to. He was of the opinion that nothing short of taking off his foot would satisfy the surgeons, and they had assured him that he would be quite well in two or three weeks. The Colonel asked me what he should do. I advised him to get permission from the Department to continue his journey to New York, where he could have the counsel of his own physicians and surgeons. Dr. Spencer offered to accompany the Colonel, if he secured permission to go. Colonel Newman had succeeded in postponing the operation that day.

On the 12th, he requested permission to go home to New York, but the surgeons decided against it, and said that he must have his foot amputated or they would not attend to him, and that if he did not submit to their decision in regard to him, he would be reported to the Surgeon-General for contumely, and dismissed the service. The Colonel assured me that a friend of his had been so served. The evening of the 12th, when I called, the Colonel said he supposed he would be obliged to submit to the amputation to-morrow, the 13th, and that after the surgeons had accomplished their purpose, in a week or two, he would be permitted to go home. Surgeon McLean, of the 2d New York Volunteers, called with me on the evening of the 12th. I had been with him on his invitation to see Colonel

Parks, of the 2d New York Volunteers, whose right leg the surgeons had skilfully amputated some days previous. He was doing finely.

On the 13th of May, I did not call, but heard from Colonel Newman through a friend boarding at the National. Down to 12 o'clock m. the wound had not been dressed. The Colonel told my friend that he expected the surgeons would be there to amputate the foot that day; the Colonel had told me that he supposed there was no other way but to submit or be discharged the service in disgrace, without pay, as the surgeons had assured him he would be unless he did. A friend of the Colonel called on Dr. Clymer, who had been consulted in the case, and who appeared possessed with full power, and who gave his views after consultation with Surgeon-General Hammond on this case. Dr. Clymer told the Colonel's friend, and also my friend, that he would not give the Colonel the choice to go to New York or remain here; that he was only to remain here and have his foot amputated; that if he did not submit here they would leave him, and he should have neither pay nor medical attendance, but that they would strike him from the roll, and leave him outside; that he had the authority of the Surgeon-General U. S. A. for saying this; that he had no right to receive, nor had any outside surgeon the right to give medical advice in such a case. If he did receive it, they would strike him from the roll and turn him out, and that they would have nothing whatever to do with him. And he added to the Colonel's friend: "If I find a citizen surgeon in the room looking at any of my patient's, I'll kick him down stairs."

All of which, save the last sentence, corresponds with what the Colonel had stated to me on the evening of the 12th, in the presence of several gentlemen; he remarked, that all these things were threatened by Dr. Clymer, in his interview with him at the National Hotel.

The following note, received from a friend who watched the Colonel's case from day to day, will give a just surgical record of what occurred from the 13th to the time of his death:—

Washington, D.C., June 10, 1863.

My Dear Sir:—After you left, on the 13th ult., Col. Newman was troubled with but little pain, meanwhile his wound freely suppurated.

On the 16th, I think it was, the attending surgeon had ether administered to him, and what was called a "perfect examination" of his wound was thoroughly made. A small piece of

leather and a bit of bone an inch in length, and a little less in width, near or from the joint of his foot, was wrenched off. It required an exertion of strength to take it out with the instrument. The next day he was attacked with *tetanus*, with intervening spasms; a blister and opiate were resorted to. Dr. Clymer said that his only chance of life lay in amputation, and that it *ought* to have been done when he (Dr. C.) originally proposed it, as in that case there would have been no danger.* Dr. Clymer performed the operation, assisted by surgeons De Witt, Swasey, Farrel, and Allen. The next day tetanus grew worse; day after, in spite of morphia and black drop, the spasms were dreadful. For two or three days he remained in this terrible condition, till an application of chloroform to the back of the neck along the side and sciatic nerve, gradually brought relief. Appetite good, color good, and perfectly conscious. He may literally be said, by aid of medicines, to have worn out the tetanus.

On Sunday morning, the 7th inst., he was attacked with secondary hemorrhage. A good nurse was present, and a surgeon was at the bar of the hotel, and although immediately arrested, the loss of a few ounces of blood turned the scale, and he died in three hours.

This noble soldier often expressed his thanks for your kindness, and could not convince himself that, in handling and dressing his wound, any hands were as soft and delicate in their touch as yours.

To bravery that knew no fear, he united the susceptibility and loving disposition of a child; and our hearts are nearly broken, and our spirits saddened at his departure. He sent for me as soon as the hemorrhage was known; but when I came he was too much exhausted to speak, and a pressure from his hand alone told that I was recognized. Comment is needless.

Respectfully, &c.

* Dr. Clymer and his associates stated to the Colonel that the reason why he did not amputate at first, was, that he did not have the time—and that, secondly, why he wished to amputate—the surgeons had not time to attend him through so long a period as he would require surgical attention, without amputation. Thirdly. If amputation was performed he could go home in three weeks, and be fitted with an artificial leg. On the 13th, when the operation was to have been performed, it was still further postponed to accommodate the surgeons; while on the 16th, the condition of the Colonel and his wounded limb was better than at any previous time after the primary stage, and was daily improving, and still Dr. Clymer says, "It (amputation) ought to have been done when he originally proposed it, as in that case there would have been no danger." Notwithstanding this assertion, the surgeons, instead of amputating on the 16th, administered ether and irritated the lacerated parts to such an extent as to produce "Tetanus."

POINTS OF INTEREST IN THIS CASE.

There are several points here worthy of note: 1st. The surgeons on the field decided upon the propriety of not amputating the foot of Colonel Newman; that it could be saved "without amputation." 2d. That the injury was inflicted on the 3d, and the surgeons on the field decided not to amputate. When he arrived in Washington, on the 8th, while the whole limb was tumefied and absolutely shining with inflammation, the surgeon in Washington wished to amputate. This was delayed from day to day, and still the foot improved in spite of the depression of mind caused by the constant threat of amputation. On the 13th, they demanded amputation, and it was delayed—the same condition of things exist, and I learn the surgeons decide upon waiting for a few days. On the 16th, Colonel Newman was troubled with little pain; meanwhile his wound freely suppurated, and in fact, his condition had continued to improve so that suppuration was free.

On the 16th, "The surgeons administered ether, and made a perfect examination" of what? Why, a wound that you could easily put all your fingers and thumb into.

This examination resulted (as the surgeons stated) in finding a small bit of leather, and in wrenching by great force a piece of crushed bone, about one inch square, from its connection with the living tissues, besides doing other irreparable injury to the soft parts. All of these loose bones, leather, &c., would have dropped out of the wound whenever loosened by nature. 3d. The 17th, (next day) he was attacked with tetanus—how significant!! Cause and effect are sure to follow. The story of the "apples" over again; you need not knock them from the tree, since if let alone they will fall when ripe; and so the bone will surely follow the organic laws of nature; *ergo*, the ignorant interference with the bone caused the irritation which resulted in tetanus; the amputation and hemorrhage followed; and the sequal—death—was the result. 4th. If amputation was to have been performed, why make the "examination" at all, in the manner it was made, since the eye could scan the entire wound, and the finger could easily pass through and into the wound and ascertain its condition? Then why irritate the parts before amputating at all? Since it is the desire of all good surgeons to avoid it, in order to save the shock, the pyæmia gangrene or tetanus. That the latter followed so soon after this injudicious interference, there need be no wonder.

Respectfully submitted,

JOHN SWINBURNE.

Chair of Medical Jurisprudence.—It should have been stated in the previous number of the Examiner, that H. G. Spafford, Esq., had resigned the chair of Medical Jurisprudence in the Chicago Medical College, which had been ably filled by him during the past four years. Inability to spare the necessary time from his professional practice was the cause of his retirement. The chair has been filled by the appointment of M. O. Heydock, M.D., of this city; whose professional attainments, general scholarship, and gentlemanly bearing, will render him not only a successful teacher but also a most agreeable member of the Faculty.

Ridgewood's Disinfecting Powder.—We have received the Report of a Committee of the New York Academy of Medicine, in relation to the value of this substance.

The Report was made by Dr. J. H. Griscom, and furnishes evidence that the committee, subjected the powder to a pretty thorough practical trial in various ways. The results of their investigations are clearly indicated in the following extracts from the Report:—

"The article called the "*Ridgewood Disinfecting Powder*," presented by a sample to the Academy of Medicine in July last, and referred to the Section on Public Health and Legal Medicine for examination and report, has been submitted to several experimental tests, which together with evidences of its value obtained from other sources, especially some of the U.S. military hospitals, will satisfy the Academy not only that it is a valuable addition to the class of substances denominated disinfectants and deodorizers, but that it also possesses decided antiseptic powers.

"The composition of the powder, as given by Mr. Napier, the Chemist and President of the company manufacturing it, is as follows:—

Carbolic acid,	5 to 8 per cent.
Sesquichloride of iron,	2 "
Lime, from magnesian limestone,	5 "
Silicate of alumina (in the form of Fuller's earth),	75 to 80 "
Prepared charcoal, or ground pumice stone,	10 to 12 "
Sulphate of potash or soda,	a trace.

"It will be observed that here is a mixture of six different substances, having no reaction upon each other, but possessing each some power of reaction upon some one or more of the products of putrefactive decomposition.

"The first named ingredient, carbolic acid, may be regarded as an impure creosote, and possesses the deodorizing and antiseptic properties of that substance, even, it is said, in a greater degree. It belongs to the class of chemicals known as hydrocarbons, a class varying in the proportion of their elemental constituents, and having affinities varying with these proportions.

"The second component of the Ridgewood powder, sesquichloride of iron, acts particularly as a deodorizer upon excrementitious matters, and others whose decomposition yields ammonia and its compounds, which are among the most abundant and offensive products in many instances. Like other compouds of chlorine, it *breaks up* ammoniacal gas; but unlike chloride of lime, it evolves no odor of its own. In this powder it is used also for the purpose of neutralizing the effect of the quicklime employed in taking up the carbolic acid. This lime would otherwise promote ammoniacal exhalations.

"When the powder is desired for strictly medicinal purposes, the lime and the salt of iron should be omitted from its composition.

"The Potter's clay or Fuller's earth, which forms the 'body' of the powder, is also a good deodorizer. It has the property in nature of retaining ammonia in the soil, to be given to the plant, as may be required. Its absorbent properties cause it to retain both moisture and gases, to which its deodorizing powers are no doubt due.

"The small quantity of charcoal is added as an aider in the absorbent process.

"The modicum of lime is present for the purpose of drying the Carbolic Acid, allowing the latter to assume a pulverulent form, without impairing its chemical properties. The Sulphate of Soda and Potash are merely adventitious ingredients. If they have an acid reaction, they are useful in case of the generation of large quantities of ammonia, but not particularly otherwise, and they are not depended upon to much extent.

"This new addition to our resources for avoiding unpleasant odors, preventing the evolution of deleterious gasses, and arresting decomposition, may therefore, by a slight variation in its constituent composition, be made applicable to different purposes, *i.e.* for medical use, it may have a maximum of carbolic

acid, and a minimum of lime and sesquichloride of iron. For ordinary deodorizing and agricultural purposes, the acid should be decreased, and the other ingredients more largely apportioned."

"The principal requirements, therefore, in any substance, to be effective as a disinfectant, are:—

"1st. That it shall remove or obviate offensive effluvia.

"2d. That it shall prevent putrefactive fermentation, so that the offensive odor, being once removed, shall not recur from the same substance.

"3d. That it shall combine with and preserve, in fœcal and other matters, the elements which form the food of plants.

"4th. That it shall be of moderate cost, and easily procurable.

"5th. That it shall add nothing to the manure injurious or preventive of its action.

"Of these several indications, our own experiments have proved some to be well answered by the Ringwood Powder, and there is sound theoretical reason to believe the others to be equally so.

"Our investigations on this important subject naturally lead to considerations connected with the practical applications of disinfectants as the means of purification, and the prevention of diseases, in all civic and military localities. We forbear, however, to extend this report any further than to express the opinion, that the great sanitary advantage to be derived from the use of the Ridgewood, or other similar deodorizers, in latrines, and cesspools of cities, and during the removal of their contents, as well as in military hospitals, camps, barracks, &c., is at once apparent. But especially would it prove valuable in preventing the decomposition of dead bodies of men and animals on the field after a battle, or in cities which have been subject to long sieges and protracted military occupation, where vast accumulations of *debris* taint the air, and are the almost inevitable cause of endemic maladies of serious character."

Clinical Lecture.—*Vaccination.*—Delivered at St. Mary's Hospital Medical School. By Graily Hewitt, M.D., Lecturer on Midwifery and Diseases of Women and Children. Continued.

Is the protective power of vaccination affected by lapse of time? This is a most interesting question, involving as it does the decision as to the necessity or otherwise of *revaccination.* It would appear that after the lapse of a certain number of years the protective power of vaccination has a tendency, more marked in some individuals than others, to wear out, and a resuscepti-

bility to smallpox arises. The history of revaccination lends support to this view, which is, as Dr. Budd has recently very justly observed, supported by what physiology teaches in reference to the change and renovation of the body, it being the fact that about every seven years the body is physically completely changed and renewed.

Some statistics as to the history of revaccination in the Prussian Army (from Mr. Simon's work), must be mentioned in connection with this subject. For many years past it has been the custom to revaccinate every soldier admitted into the Prussian army. In 1833, the system of revaccination in the army was begun; and in that year the percentage of cases in which the vaccination took effect was 33. The percentage of revaccination success has progressively increased since that time, the percentages each year being represented by the following figures:—33, 39, 42, 46, 49, 50, 52, 54, 57, 58, 57, 58, 60, 64, 64, 64, 61, 64, 69, 69, 69, 70; so that the percentage has increased from 33 to 70 per cent.

These figures prove that in Prussia—a country in which, so far as is known, vaccination is well attended to—the first vaccination has been followed by a resusceptibility to the vaccine disease, which is not represented constantly by the same figure. These statistics lead probably to the view that the efficacy of the vaccine lymph used throughout Prussia has deteriorated in process of time. The latter is a point which will be specially referred to in the next lecture. But we are now concerned with another question: the possible wearing out of the protective power of vaccination against smallpox by lapse of time. It is reasonable to infer that if a resusceptibility to the vaccine disease be shown to arise in the individual, a like resusceptibility to smallpox will concurrently arise in that particular case; and the impression has been for several years past here gaining ground that revaccination is proper, and even necessary, once or more in the life of the individual. Mr. Marston states that during 17 years not a single servant or nurse belonging to the Smallpox Hospital has taken smallpox, and the universal custom has been to revaccinate the servants, nurses, and attendants in or about the hospital on entering on their employment at this institution. It does not appear that the goodness of the first vaccination necessarily extends the limit which time usually places on the vaccination as protective from susceptibility to the vaccine disease; in other words, an individual well vaccinated at first may be found as liable to take the vaccine disease after the lapse of 20 years as one imperfectly or badly vaccinated.

For the time, and probably in by far the majority of individuals, good vaccination is almost absolutely protective; but after the expiration of a time, which appears to vary in different individuals, which is influenced by idiosyncrasy or some unknown cause, a resusceptibility to the vaccine disease—and probably also consequently to the smallpox—arises, whether the primary vaccination have been good or bad. If the effect of good primary vaccination wear out in course of time, *a fortiori* must the effects of bad vaccination wear out proportionately sooner. The conclusion to be drawn as to revaccination is, that revaccination should be performed at the age of puberty, and perhaps again at the age of 25 or 30, and that it is desirable also to revaccinate at other ages than these during epidemics of smallpox, and especially in the case of individuals likely to come into contact with smallpox patients.

History and nature of vaccination.—For a full account of the early history of vaccination, and of the manner of which, step by step, our countryman Jenner arrived at a discovery which is emphatically *the* discovery of modern times, I must refer you to the numerous works on the subject, and especially to the Report on Vaccination, by Mr. Simon, before alluded to. Time will only allow me to remind you of the chief facts. Jenner performed his first vaccination in 1796, the subject of the operation being a boy aged 8. This child was afterwards inoculated with smallpox without effect. In 1798, Jenner published his essay on the subject. In 1801, 6000 individuals had been vaccinated; and Parliament voted Jenner the sum of £30,000 in recognition of the importance of his discovery.

The disease known as the vaccine disease, and which is witnessed on the udder of the cow, is in reality the smallpox affecting the animal. In this country, Mr. Ceely, of Aylesbury, and Mr. Bradcock, of Brighton, have proved that this is the case by inoculating cows with smallpox; and well-marked vaccinia has thus been produced. From cows so inoculated individuals have been vaccinated, the results being identical with those of vaccination with matter as ordinarily obtained from the cow. It is probable that if these facts had been known at the time Jenner made his discovery, much of the prejudice which he had to encounter would have been removed. Individuals had an objection to taking the disease of an animal, but there would naturally be less objection to taking a disease the identity of which with smallpox had been proved. Jenner surmised that it was so, as is evident from the name which he gave to the disease—"variolæ vaccinæ." The vaccine disease, then, is the

smallpox which has passed through the cow, and which has, in so passing through the cow, become so modified that, when reconveyed to the human subject, it gives rise to a disease of exceedingly slight intensity, but which nevertheless is still the smallpox. For a full account of the vaccine disease I must refer you to the ever-to-be quoted paper in the "Transactions of the Provincial Medical and Surgical Association," Vol. VIII., by Mr. Ceely, of Aylesbury.

In the next place, we must consider *the phenomena produced by vaccination in the human subject.* The necessary outline of the subject now to be given must be completed by actual inspection and comparison of vaccinated cases, opportunity for which is afforded you at an adjacent public vaccination station. This practical study of the subject is absolutely essential.

Vaccination for the first time.—After the arm has been punctured, and the vaccine lymph introduced, the first effect is identical with that which would be observed if the lancet had been uncharged with lymph; it so remains during the next two days; and it is only on the third day, or towards the end of the third day, that appearances are observed about the wound of an unusual character. It then becomes red and slightly elevated. On the fifth day, the cuticle covering this little red spot is elevated into a small pearl-colored vesicle: and this vesicle evidently contains a fluid. The vesicle varies in shape, according to the shape of the incision made—it is round if a simple puncture be made; it is oval if there has been a small incision in the skin. On the eighth day—that is to say, at the close of the seventh day—the vesicle has become much larger; and it is then in perfection, as it is termed. The margin of the vesicle is turgid and elevated; the color is now somewhat yellow, not quite so transparent as it was, and, on close inspection, it is evident that the vesicle is cellular, and divided by septa, there being from 10 to 14 cells in each vesicle. Moreover, the vesicle is what is termed umbilicated, having a depression in the centre, over which part there is no elevation of the cuticle into bladders. After the eighth day, there is formed what is termed the areola, the skin around the vesicle becoming red, sometimes of a deep red tinge; the surface of this areola becomes tense, hot, and at the same time painful; the areola is usually circular. If the points of vaccination be close to each other, there will be a large red spot surrounding the whole, extending sometimes a considerable distance up and down the arm. An occasional but very rare result, and one which appears to be connected with the use of bad lymph, is inflammation of the cellular tissue of the arm.

The glands of the neck and armpit are usually slightly swollen. During the eighth and ninth, or even tenth day, the increase in the size of the vesicle goes on. It is extremely important that the two things—the *perfection* of the vesicle and its *greatest size*—should not be confounded. The vesicle is in perfection on the eighth day; but it is at its largest size on the ninth or tenth day. On the eleventh day, the vesicle begins to fade, the lymph within becomes absorbed, or the vesicle breaks, and it is discharged, and a scab forms, which becomes hard, dense, firm, and black, and finally falls off at a time which varies from the eighteenth to the twenty-first day after the performance of vaccination. There is left behind it a cicatrix, which is quite indelible if the vaccination be efficient. Such is the course of the disease normally.

Occasionally, there is observed what is termed "retardation" of the disease, and this may take place up to sixteen days, possibly even later. The arm does not "take" so early as it should do, although the disease, after it has begun to take, may go through the same course as that ordinarily observed. On the other hand, a too early taking of the vaccination indicates irregularity, and is usually due to some defective character of the lymph used.

Secondary vaccination.—As a rule, when vaccination has once been performed, the individual is no longer susceptible to the *regular* vaccinia. The effect of the vaccination is, under these circumstances, that irritation is set up analogous in *kind* to that observed in primary vaccination, but the disease sets in quickly, the redness often beginning immediately after the operation; the vesicles are imperfect; there is little evidence of presence of fluid; the duration of the effect is only five or six days (although variations in this respect may be noted), and the scar left behind is correspondingly small, and wanting in the typical characters. In quite exceptional cases the secondary vaccination takes perfectly, and the course of the second vaccination is more nearly identical with that of the first. These cases, in reality, resemble those in which has been observed the occurrence of smallpox after good vaccination.

Characters of the cicatrix following good vaccination.—It is important that you should be aware of the characters of a perfect scar, and note them accurately. The scar resulting from good vaccination is usually circular; it is radiated, indented, and foveated, having a number of little pits upon its surface; and it has a well-defined edge. Good cicatrices are generally of a considerable size. The size of a typical scar, such as

would be observed after vaccination by the puncture of a lancet, which is the ordinary method, is that of a threepenny piece—just five-eighths of an inch in diameter.

Now, what are the characters of a defective scar? A defective scar is more or less wanting in all the characters mentioned. It is comparatively smooth; without indentation; without the little pittings; the edges are irregular and ill-defined, and it is often very small.

Lastly, with reference to the phenomena of vaccination, as ordinarily observed. Up to the seventh or eighth day, the child is perfectly well, but there generally set in, at this time, some constitutional disturbance and signs of irritative fever. This varies in degree in different cases; it is sometimes considerable.

It need hardly be observed that the wound inflicted by the vaccination is, like other wounds, liable to be affected by injurious conditions of the surrounding atmosphere. Pyæmia may follow the use of bad lymph; erysipelas has, in rare instances, been observed. Ordinary care is sufficient to prevent such evils. *Lancet, June* 13, 1863.

Hydrophobia.—*Electricity.*—A patient suffering from hydrophobia, and so far advanced in the disease as to have become entirely unmanageable, was secured and bound to a mattress, and a copper-wire being wound around both feet, the conductor of the negative pole was attached to this wire; and the conductor of the positive pole, through a sponge saturated with vinegar and salt, was applied to the throat, and over the spine and body generally, with the full power of the battery. This caused instantaneous cessation of the spasms, and while under the influence of electricity the patient willingly drank liquids, and was free from the usual horror of them. The current was continued for some hours, with intervals of omission; the patient began to collapse, then vomiting and purging freely followed, and finally he fell asleep, and recovery ensued. This case, which occurred in New York, under the care of Dr. Lassing, seems extraordinary, and we should be glad to hear of a repetition of the experiment in England. (Dr. H. Lassing, page 50.)

Nævus.—*Tartar Emetic.*—Make a plaster of from 16 to 18 grains of tartar emetic, and 1 drachm of diachylon, and spread a considerable portion of this all over, and somewhat beyond the nævus, by means of the back of a strong knife, and keep it *in situ* by means of gummed paper. On the fifth or sixth day, the entire surface of the nævus begins to suppurate, a crust

gradually forming, which passes off in about 15 days, leaving a small cicatrix. (Dr. Zeissl, page 132.)

Thapsus Verbascum.—Messrs. Bullock and Reynolds, of Hanover Street, sends us a specimen of the tincture of this plant, prepared as suggested in a former number of *The Lancet*. It is of a rich dark-brown color, almost as dark as laudanum, with a peculiar odor and taste, not disagreeable, and, we should think, well represents the properties of the plant.

On the same subject, Dr. Gardner writes to us:—"I wish you would remind the readers of *The Lancet* that the season is approaching for gathering the 'thapsus verbaseum,' and preparing the tincture from the freshly-dried plant. I have found it so valuable a remedy for irritable coughs,—affording, in doses of half to one drachm, great relief, without the nauseating effects of ordinary expectorants, or the disagreeable narcotism of opium,—that I strongly recommend medical men who are troubled with cough to try it on themselves. I am sure many will be gratified with the result. It is best given alone, diluted with a small quantity of water."—*London Lancet.*

Cholera. — *Subcutaneous Injection of Morphia.* — Opium seems of undoubted benefit in cholera, but is so generally rejected immediately from either the stomach or rectum that its full effects cannot easily be obtained. If, however, it is injected beneath the skin, its action will be found to be prompt and efficient, relieving at once the violent abdominal cramps and muscular action of stomach and rectum. Gtts. xv. of liq. morp. acet. may be injected with a Wood's syringe, beneath the skin of the abdomen. (Dr. I. Ash, page 92.)

A New Method of Auto-Ophthalmoscopy.—M. Giraud Teulon lately submitted to the Academy of Medicine of Paris, an instrument composed of two plain mirrors inclined one upon the other at angles of ninety-six degrees. The objective lens of the ophthalmoscope is placed before one of the mirrors, and before the other an ordinary ophthalmoscopic mirror. The left eye is then put in contact with the left mirror and the lens, the right eye with the ophthalmoscope or the mirror of the right side. A lamp is now placed on the right, as in ordinary exploration, and the auto-examination of the right eye is then very easy. M. Giraud Teulon has used the instrument upon himself with great success.—*London Lancet.*

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ARTICLE XXXIII.

DELAYED UNION OF FRACTURES, WITH CASES AND ILLUSTRATIONS;

THE SUCCESSEUL EMPLOYMENT OF MALGAIGNE'S SPIKE IN CONNECTION WITH DRILLING IN A CASE WHICH HAD PREVIOUSLY RESISTED DRILLING EMPLOYED BY ITSELF.

BY DAVID PRINCE, M.D., of Jacksonville, Ill.

Read to the Illinois State Medical Society.

While fractures sometimes unite under the most adverse circumstances, at other times union is delayed or does not take place where the appearances are at first most favorable. This difference of results, independent of external circumstances, can only be accounted for by the assumption of constitutional differences of aptitude to bony formation. While ossification will sometimes extend through an inch or two of plasma, reaching from one fragment to another, the separation to the extent of one-fourth of an inch will at other times prevent the bony union of the fragments. While privation and starvation sometimes fail to retard union, there is in some constitutions a necessity for a liberal diet to afford the neeessary stimulus to bony deposit. The antiphlogistic remedies for high inflammation, if continued unnecessarily long, may sometimes prevent union, while in other instances no practical amount of local or general reduction will interfere with bony formation. While, therefore, it is never safe to omit any of the conditions of success in the treatment

of fractures, the greatest number of unfavorable circumstances may be insufficient to cause failure if the ossific tendency be strong.

It is suspected that a fuller investigation will show that separation of the fragments to a distance of one-fourth of an inch or more from each other, and insufficiently nutritious diet at the period of from three to five weeks from the date of injury, are the most frequent causes of delay or absence of union. If this shall be affirmed by experience, it follows that the two most important points for the surgeon to attend to are, the apposition of the broken surfaces of the fragments, and the proper nourishment of the patient during the ordinary period of ossification. It must not be forgotten, however, that the extreme of fulness in diet may beget conditions of the system more dangerous and unwelcome than protracted non-union.

The delay having occurred, and the fragments remaining beyond the usual period, connected by soft callus of a greater or less degree of firmness, the treatment will at once suggest itself to secure local stimulation by frictions upon the skin, movement of the broken surfaces upon each other, a resort to more liberal diet, securing a better general health by exercise or exposure in the open air, and pressure upon the parts with reference to the approximation of the fragments when this is practicable, and when the delay may be suspected to depend upon the motion of the fragments upon each other, the diminution or arrest of this motion.

All these failing, some means of inducing more active capillary circulation with congestion or inflammation must be resorted to.

1. In the list of means to this end, is the passing of a seton through the callus between the fragments. This may be supposed to excite inflammation in all the parts immediately surrounding the seton, including the neighboring periosteum. As an important point of treatment is to get the action of ossification started somewhere, in order to favor the propagation of this action through the fibrinous material constituting the callus, the treatment is based upon intelligible physiological principles.

From the known tendency of long-continued inflammation in and near the periosteum, to induce bony deposit, it may be that Dr. Physick was right in retaining the seton a long time, with the result of a protracted congestion in the neighboring bone and periosteum. It may be in practice better to try the seton first for the short period, and, if that fails, to try it for the long period where this method of treatment is pursued.

2. The injection of some stimulating agent like iodine into or around the callus is founded on correct principles, but must be so extremely uncertain that in the possession of surer means it is not worth any further trials.

3. Electricity or galvanism passed through acupuncture needles introduced into the substance between the fragments, or in close proximity to them, can only be expected to succeed by exciting hyperæmia or inflammation.

4. Opening the parts, and scraping or sawing off the ends of the fragments, converts the case into one resembling compound fracture; but in very old cases, in which the false joint resembles a capsular ligament with its inclosed synovial membrane and cavity, this severe proceeding may be necessary. In any case in which the duration of the false joint is not measured by years, it is not easy to conceive this process to be necessary.

Dieffenbach's method of drilling and introducing ivory plugs, leaving them there to excite suppuration, can hardly be conceived better than the seton carried through the soft callus between the bones, while the risk of necrosis must be a strong objection to the proceeding.

6. Brainard's method of drilling through the solid bones and their intermediate soft callus, so practicing the operation as to permit the skin to slide over the opening when the drill has been withdrawn, has two theoretic recommendations. First, a very great disturbance of the particular portions of the bone drilled is effected, giving rise to the production of new plastic material for the formation of callus in the track of the drill, without the occurrence of suppurative inflammation. Suppuration here, as in the healing of other tissues, must be supposed to retard the union, though the active capillary circulation in the vicinity of its seat may result in subsequent ossification.

The case may be thus stated: If the bony deposit can be induced by congestion or non-suppurative inflammation, it is more speedy than that brought about by suppurative inflammation. Yet there may be cases in which a long-continued inflammation with suppuration will induce the formation of bone after the failure of a shorter course of inflammation without suppuration.

In the cases in which there can be success by congestion or non-suppurative inflammation, suppuration is an evil retarding the result. In the other cases it is a necessary attendant upon the prolonged inflammation.

Second. When the operation results in the effusion of plastic lymph without suppuration, there are new centres of ossification in the chips of bone cut off by the drill. These are left in the track of the drill; some of them in the soft callus between the ends of the fragments.

That these minute fragments of bone become parts of the living tissue which organizes around them is certain: for, if they did not, they would, by the offensive emanations of dead bone, excite suppuration and work their way to the exterior. The importance of these little fragments cut off by the drill, as centres of ossification, may have received too little attention. As in crystallization, the introduction of a single minute crystal may be sufficient to start a process which is backward to commence without catalytic aid, so the process of ossification, when slow to begin, may be set in operation by a fragment of bone or periosteum imbedded in the plastic material. To obtain this advantage of the bony fragments it is, of course, necessary that suppuration in the track of the drill should be avoided.

7. Applying metallic wires around the fragments to approximate them and prevent lateral motion, answers an obvious indication. To apply a wire around the fragments, it is, however, necessary to convert the fracture into the condition of a compound fracture, and afterwards, when union has taken place, the wire is to be left in, or removed at the expense of much disturbance of the parts. If a silver, gold, or platinum wire becomes covered with organized lymph or granulations it can do no harm, and may be allowed permanently to remain.

8. Perhaps a bone might be drilled through both fragments

and held in apposition by a rivet of one of these metals. The presence of the rivet after the completion of the healing process would do no harm, and if a permanent discharge should be the result the metal could be readily removed.

9. Metallic points arranged for pressure on one or more of the fragments for the purpose of approximating them.

This expedient, where the nature of the parts makes it practicable, supplies an important indication. It accomplishes all that can be secured by the application of wires with more certainty, without extensively disturbing the soft parts, and the apparatus is easily tightened or loosened, increasing or diminishing the pressure, and is easily removed altogether.

Whether the separation of the fragments has been occasioned by the action of muscle or by the interposition of muscle or other material, the pressure will be constant, tending continually to approximate them.

Malgaigne's single spike for oblique fracture of the lower portion of the tibia is intended to prevent what it may afterwards be employed to remove, *i. e.*, a too wide separation of the fragments. In this apparatus the counter pressure is by means of a strap passing round the leg, including a splint, which distributes the pressure upon the back of the leg. In other cases the counter pressure must be by means of opposing points acting upon the opposed fragments, in order to bring them into close contact. Skill in making and adjusting the apparatus will be chiefly exercised in making it occupy sufficiently small space not to be in the way of placing the limb alternately in various positions while the process of union is going on.

Wherever the application of pressure by metallic points penetrating the soft parts and pressing the bony fragments together becomes necessary, it would have been important to apply them in the first place to bring the fragments into close contact and favor union by what is termed by PAGET *immediate union*, or by *primary adhesion*.

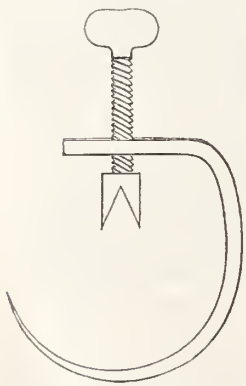
This is a new treatment, and the reason why it has not been adopted before this time is probably the repulsive appearance of the treatment to patients and friends. It is found by experi-

ence, however, that very little pain is occasioned by wearing for weeks a steel point, applied with considerable force, to the fragment to be held.

The treatment does not convert the fracture into the condition of a compound fracture, for the point can be applied at a sufficient distance from the place of fracture to avoid this complication. When, however, points have to be applied to opposite sides of the limb to act upon different fragments at the same time, they must be nearly or quite opposite each other; but as it is only in oblique fractures that the treatment is admissible, it will only in very rare cases be necessary to penetrate the interior wound in the soft parts.

In cases of compound fracture, the points can be introduced into the wound or through the uninjured soft parts, as may be most convenient. This, as a first treatment of fracture, may be found to be less painful than apparently more comfortable modes of dressing, obviating the movement of one fragment upon the other by the closeness with which the surfaces are brought together. Some periosteal inflammation must be excited, which, if it extends to the fractured lines, can only the more certainly result in bony formation, whether as a primary treatment or as a method of curing non-union. A slight exfoliation of bone may occur at the spot where the metallic point is made to press; but this is a trifling consideration in comparison with an increased efficacy in the treatment.

Fig. 1.



Modification of Malgaigne's spike, employed for delayed u nion in oblique fractures.

A single point may be applied by means of the metallic yoke and strap, as employed by Malgaigne, and where two or more points are to be applied on opposite sides of the limb, an apparatus may be constructed resembling the clamp used by ladies to fasten to a table any fabric for greater convenience in sewing upon it, or like some forms of tourniquet made to apply opposing pads by means of a steel

yoke approximated by some screw arrangement. The pads would for this purpose be replaced by points. The apparatus should be so arranged as to be capable of compressing the fragments as closely as may be necessary to keep them in apposition, and to hold them without any yielding whatever. There should be no elasticity in the retaining apparatus. (Fig. 1.)

If the pressure of the fragments upon each other is found to be painful to the patient, the screw may be loosened a very little, as a very small relaxation of pressure will be capable of affording relief.

CASE I. *Non-union of Tibia unsuccessfully treated by Drilling; afterwards successfully treated by Drilling followed by Compression of the Fragments by means of Malgaigne's Spike.*—Lt. Samuel L. Hamilton, Co. F, 19th Regt., Illinois Volunteers, on the 15th of May, 1862, had both fibula and tibia of the right leg broken, a short distance above the ankle, by being thrown from a wagon, lighting upon his feet. He was treated in the army hospital, and the patient says his surgeons had considerable difficulty in keeping the bones in proper position.

After a few weeks, a starch bandage was applied, and the patient went upon crutches. The fibula united by bony material, but the tibia remained ununited. Some deformity existed from the action of the muscles, sliding the lower fragment upon the upper and bending the fibula, bringing the outside of the foot to the ground.

Operation under Ether by Drilling, after Brainard's Method, Nov. 5, 1863, five months and twenty days from the date of the injury:—The fragments of the tibia were forcibly moved upon each other, and two holes were drilled through both fragments and the intermediate soft callus. The callus seemed, from the jumping of the drill, to be a-quarter of an inch in thickness.

A side splint was applied, extending from the upper portion of the tibia over the malleolus, around which the limb was firmly bandaged. The fibula thus received the whole force of the bandage on one side, while upon the other side, the force of the bandage was received upon the malleolus, and the upper portion of the tibia by the intermedium of the splint. In two

weeks the constant pressure had straightened the fibula so that there was no deformity. There was no perceptible motion between the fragments, and the splint was directed to be worn some time longer with the expectation of success.

This operation proved a failure, and the movement of the fragments upon each other became obvious enough.

Second operation: Drilling and the Application of Malgaigne's Spike, March 11, 1863, ten months from the injury, and four months from the previous operation:—A very obvious deformity had been reproduced. The muscles acting upon the fibula as a fulcrum, had bent it so as to bring the outer side of the foot to the ground, while the inner side was slightly lifted from it. The patient having been brought under the influence of ether, the fibula was forcibly straightened by interstitial breaking, or by bending with breaking of portions of the substance; after which a-quarter-inch drill was introduced between the fragments passing from below upward and backward, and freely rotated in the space between the two fragments, breaking up the soft intervening callus. The fragments were thus shown to be one-quarter of an inch asunder. A small probe was introduced and left as the drill was withdrawn. Three holes were then drilled through the anterior fragment and intermediate callus and into the posterior or lower fragment.

The limb was then put upon a posterior splint which was a double inclined plane, and the steel-point of Malgaigne's spike placed about an inch above the lower end of the upper fragment, through an incision made in the skin by a bistoury, the strap adjusted beneath the splint and the screw turned down until the probe left between the fragments was very firmly grasped by the approximation of the fragments. A light side-splint was applied on each side within the yoke holding the spike. The probe was then pulled out from between the fragments.

With slight adjustments from time to time this apparatus was worn without removal twenty-eight days. The patient took opium enough during the first few days to quiet pain. He was overtaken with a chill, to which he had for several months been

subject, after which he had the consequent fever, with a pulse of 120. He took quinia for this, and lager beer. As soon as he was free from his ague he discontinued medicine. Considerable swelling and suppuration occurred around the spike, which was not attended with much pain. The apparatus looked worse than it felt.

April 8th. The twenty-eighth day removed the dressing, and applied a tin side-splint.

17*th.* Applied a starch bandage, which was split on the 19th, and directed to be worn two weeks longer.

There is a node on the inner side of the tibia, exactly opposite the point occupied by the spike, as if periosteal inflammation had extended around the limb from the point of irritation by the spike. The minute exfoliations afterwards came out in the vicinity of the point pressed upon by the spike. Consolidation followed this treatment, without impairing confidence to the patient, who cautiously ventured to walk upon the limb. The patient left to rejoin the army the first of July.

(Fig. 2.)

Appearance of leg of Lieut. Hamilton, March 10, 1863.

(Fig. 3.)

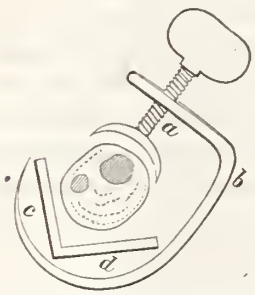
Appearance of leg of Lieut. Hamilton, June 27, 1863.

(Engraved from Photographs.)

CASE II. *Ununited Fracture of Tibia and Fibula of three years' duration, with much Angular Deformity from Contraction of Muscles. Reduction of Deformity by Extension and Lateral Pressure—Drilling the Bones according to Brainard's Method, resulting in Bony Union without deformity or Lameness.*—Augustus Simpkins, of Pike County, Illinois, aged about thirty-five years, had a simple transverse fracture of the middle portion of the tibia and fibula of the right leg, by the fall of a tree.

There is said to have been much swelling and inflammation, and the skin was cut to let out the effused fluids. Cold applications were kept upon the leg, and the patient restricted to a low diet. No union by bone followed, and the angular deformity—the foot being carried out, making the leg look like a limb with a knock-knee—resulted gradually from muscular contraction. When the patient stands erect the toes only come to the ground, the lower portion of the leg being at an angle of 45° with the other leg.

Fig. 4.



A. Screw with its concave pad applied to the projecting angle of the leg. B. Hook for retaining the screw, making counter-pressure upon the splints. C. Long splint, which is the medium of extension. D. Back splint attached to the long splint, for aiding in securing the counter-lateral pressure.

June 12, 1861. The non-union has been of three years' duration. Applied the most powerful extension practicable by the lever arrangement of Jarvis' adjuster attached to the distal end of a long splint, the counter-extension being upon the ischium and groin, while lateral pressure was applied by a sort of tourniquet working with a strong screw.

Forcible working of the ends of the bones upon each other was practised by taking hold of the limb with the hands, and the tendo-Achillis was divided. With all this the limb was not restored to its straight position, and the apparatus breaking under the great strain applied, the process was stopped. The limb was dressed so as to retain as far as possible what had been gained.

After five days, not much inflammatory excitement had appeared, and the limb was subjected to another process. The bones were drilled from one fragment into the other in six places, taking different directions, all traversing the soft callus between the ends of the bones. The extension and lateral pressure were applied as in the first instance, only with stronger apparatus. The extension was from the ankle, by means of a roller applied around it to hold the loops. The limb was not only straightened by this operation, but the muscular resistance was so completely overcome that I bent the limb in the

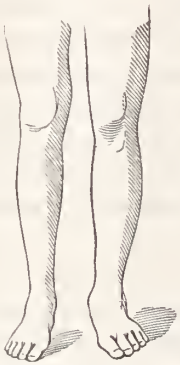
opposite direction without difficulty. The thigh, leg, and foot were then placed in a side-splint, made of tin, and kept in it until the consolidation was complete, except when taken out for washing and friction to the skin.

In three weeks from the first operation he went home, a distance of 40 miles, riding about half the way in a buggy. The splint was worn about ten weeks. Perhaps it might have been laid aside sooner, but the patient, after three years' experience, was afraid to trust his limb too soon.

During the operation, a mixture of ether and chloroform was inhaled, and, to quiet the subsequent pain, morphia was freely administered. No other antiphlogistic treatment was resorted to than catharties.

Fig. 5.

Fig. 6.



The above figures, engraved from the photographs, represent the appearances of the limb before treatment, Fig. 5; after treatment, Fig. 6.

The result in this case should lead us never to dispair of success, until after trials of means of cure. As the fracture of the tibia was transverse the interposed substance was subjected to great pressure by the contraction of the muscles, and there was no want of apposition to account for the non-union. It is suspected that the antiphlogistic treatment was too long continued. The fragments of the fibula became overlapped as the limb assumed the angular position, but when brought into proper relations by straightening the limb the fragments became united by bony substance.

The preceding figures (Figs. 5 and 6) represent the conditions before and after treatment.

Case III. *Drilling the Callus only, unsuccessful; Bony union afterwards induced by walking.*—In one case of simple oblique fracture of the upper portion of the lower third of the tibia and fibula by the falling of a tree, originally treated by me with great care by extension to avoid shortening or other deformity, the ossific union was delayed beyond the usual time. The callus was broken up by the insertion of a drill between the fragments of bone, but the hard bone was not drilled. This means failed up to the time when the patient, becoming impatient, placed himself in charge of another practitioner, who removed the splint and set the patient to exercising, bearing what weight he could upon the broken limb, after which bony union occurred with considerable deformity, the angle projecting forward.

Case IV. *Drilling the Callus only; its influence doubtful, but the case successful.*—In another case of oblique simple fracture of the tibia with fracture of the fibula, ossific union was delayed beyond the usual length of time.

A drill was inserted between the fragments, and the diet made more liberal, after which union occurred without deformity.

The patient attributed the delay of union to the cutting off of his daily drinks of whiskey; and perhaps he was right. As the accident occurred while he was drunk, it seemed a good time to reform; but the moral the patient drew from the delay of union was unfavorable to reformation.

I am led to think that the perforation of the callus by awls or drills, which do not penetrate the bony substance, is useless, and perhaps worse than useless, by breaking up its organization without influencing the bone and periosteum, whence the process of bone formation most readily proceeds.

Case V. *Drilling the Bone.*—Thomas Mulready, an Irishman of short stature, aged about thirty, had an oblique fracture of the lower third of the tibia, beginning two and a-half inches above the joint, and extending upwards and backwards with fracture of fibula.

I first saw the case three months after the injury, when there was forward projection of the upper fragment of the tibia, with a shortening of an inch and three-quarters. The fibula had united.

Four holes were drilled through both fragments and the intermediate soft callus. Side-splints made of cloth, saturated with an alcoholic solution of shellac, were applied and worn twenty-two days from the date of the perforation, when the fragments were found to have become consolidated. During a part of this time the patient was pretty well stimulated with whiskey and quinine.

The recovery was complete and permanent.

CASES VI. & VII. *Seton successful in two Cases.*—In 1848, I treated a case of non-union of the tibia successfully with the seton, and in 1851, a case of non-union of the humerus. In both these cases the seton was withdrawn at the end of two weeks, when the inflammatory action was supposed to be at its height. The success in both these cases was all that could be desired.

Summary. Seven Cases treated—two by Seton successful.—It is probable that the result is owing to increased vascular activity in the hard bone and periosteum, and not owing to any action set up in the callus itself.

Two by perforation of callus. This treatment is believed to be useless. The patients recovered, one from a resumption of his customary alcoholic stimulus, and the other from the stimulus of walking.

Three by drilling through the hard bone of both fragments. Two of these cases were successful on first trial; the other was unsuccessful at first, but afterwards successful when combined with compression by means of the metallic point impinging upon the projecting fragment.

Of the seven cases, all ultimately recovered; the two in which the callus was simply perforated would probably have done as well without the perforation.

Six of the cases were of the leg, and in all of them both bones were originally broken.

In four of the six cases, the fibula united while the tibia remained ununited. In two cases, the fibula remained ununited until the tibia finally united, but united at length without any treatment applied directly to the fibula itself. From this it appears that the fibula is more prone to unite than the tibia. Perhaps this is because the fracture is more likely to be transverse, on which account it is less subject to displacement, and because the tendinous and muscular investments hold the two fragments of the fibula together instead of tending to separate them, as is the case in oblique fractures of the middle and lower portions of the tibia.

One case of the middle portion of the humerus. The seven cases all ultimately successful.

Note. Oct. 20, 1863.—Since this article was written, I have treated two cases of delayed or tardy union. Both of these cases were oblique fracture of the middle third of the tibia, with fracture of the fibula, the small bone uniting in the usual period.

In one of these cases the fracture was compound, and the spine of the lower end of the upper fragment projecting anteriorly, and rising one-third of an inch from its corresponding surface on the upper end of the lower fragment, and overlapping or shortning about half-an-inch; there was no bony union at the end of nine weeks. The spike was applied upon the exposed spine of the upper fragment, pressing it very firmly upon the lower fragment, after which bony union speedily occurred. The pressure by the metallic point removed deformity at the same time that it secured union.

In the other case there was no bony union at the end of twelve weeks from the date of the injury.

June 10. A starch bandage was applied, and the patient was set to walking with crutches, hoping to obtain union by the stimulus of exercise.

June 24. Fourteen weeks from the date of injury. No diminution of movement of the fragments upon each other, having been secured by this means, the bone was drilled.

In this operation a small drill was first made to penetrate between the fragments, from below upward and backward, through the whole oblique diameter of the bone, showing that the fracture, which had been supposed to be transverse, was oblique. This drill was left in position to serve as a guide for the place and direction of the holes to be made through the bony fragments. Four holes with a-quarter-inch drill were made through both fragments, traversing the soft callus between them.

A starch bandage was again applied. Two holes suppurated and two did not.

The patient wrote, date Oct. 4th: "I commenced to walk on the leg about the 20th of August, with a cane." (This is nearly ten months from the time of the drilling.) "I can now go without a cane, but I carry one. The leg is very hot at times and very sensitive; and if I step on a stick in the hollow of my foot it hurts, but in walking in smooth ground I experience no difficulty. My ankle is still weak, and that hurts more than the leg. That leg is a little the shortest."

It will be noticed in this case, that the stimulus of exercise with the limb in a dependent position from the 12th to the 14th week from the date of the injury, failed to diminish the mobility of the fragments upon each other. The ordinary period for bony deposit having passed by, it was difficult to reinstate the process of bone-formation.

ARTICLE XXXIV.

CASES OF CYANOSIS, ATTENDED WITH, AND PROBABLY DEPENDENT UPON, COLLAPSE OF THE LUNG.

By JOHN BARTLETT, M.D., of Chicago, Ill.

Read before the Chicago Medical Society, September 11, 1863.

Case I. In July, 1858, Mrs. S. W. gave birth to a healthy child. On the eighth day it sickened. The mother attributed the symptoms to the bad quality of her milk. Before she bore a child, a tumor, said by her physicians to be hard cancer, had been removed from the breast. All of her other children, seven in number, had suffered as this one, and at the same age. In three cases, the disease had proved fatal.

The child was much emaciated. The general surface had been noticed occasionally to be of a dark red color, and the face of a purple hue. There was a severe diarrhœa. But the most prominent symptom was long-continued paroxysms of intense pain. Three convulsions were said to have occurred within a few hours past. Anodynes and astringents were given; a suitable wet nurse was obtained; liniments were applied to the chest; and the child was laid upon the right side. Thirty-six hours later, its diarrhœa continued, its tendency to convulsions was greater, and the cyanosis more decided. Occasionally the respiration was much hurried and labored; the respiratory movements, at one time, reaching eighty per minute. No very significant auscultatory phenomena were observed. A slight ronchus, and diminished respiratory murmur were constantly noticed on the left side. These signs were much more marked on some days than on others. The periods of greatest diminution of the murmur were not coincident with those of the greatest acceleration of breathing: on the contrary, puerile respiration was always distinct, whenever the breathing was rapid.

Probably, the exaggeration of the vesicular murmur in the healthy portion of the lung rendered inaudible the circumscribed diminished sound. It was during the hours of greatest

feebleness that the greatest embarrassment of respiration occurred. Some days of improvement followed the treatment; but all the symptoms returning, in an aggravated form, after ten days of illness, death resulted.

An autopsy, eighteen hours after death, revealed all the abdominal organs somewhat congested with dark blood; the intestines were congested in all their coats, but there was no evidence of inflammation.

Posteriorly, in each lobe of both lungs, but particularly in the middle lobe of the right lung, and in the lower lobe of both lungs, there were lobules in a state of carnification. This condition was mostly superficial; but in spots, it extended into the lung the width of the finger. Probably one-tenth of the substance of the organs was involved. Upon moderate inflation, the most of the affected lobules resumed their normal state, the greater number collapsing when the inflation ceased. Some could not be expanded.

The cavities and vessels of the heart were natural. The valve of the foramen ovale* was imperfect, presenting an opening of one-tenth of an inch in diameter. The ductus arteriosus was patent to the like extent.

CASE II. On the 26th of April, 1863, Mrs. J. D., a strong, healthy woman, aged about forty years, was attacked with violent spasms. She was, as was supposed, in the eighth month of pregnancy. As the convulsions occurred in lieu of an antici-

* This statement as to the deficiency of the valve is taken from notes written at the time of observation. The experience detailed below is sufficient to cause me to set aside that opinion. Probably, more careful study of the anatomy would have shown the valve perfect. I am the more disposed to this conclusion since Dr. J. R. ALLEN, then Professor of Obstetrics in the Iowa University, who witnessed the examination, expressed doubts as to the abnormal state of the parts in question.

In the examination of the heart, in the following case, I determined to make certain of its condition, especially in regard to the foramen ovale. The septum auricularum was viewed in many directions. The heart being held in the hand in a natural position, a current of water was directed against the left side of the septum, floating up the valve. The result of this unusually careful examination was the conviction that the valve was deficient in its anterior and inferior third: it was so recorded.

pated chill, and as no other cause for them, other than malarial influence, was discovered, antiperiodics were trusted to for relief. The result was entirely satisfactory.

On the 18th of May, after an easy labor, she was the mother of a small, feeble child. It did not breathe at once; but respiration was soon apparently well established. The infant was placed in a sheet and allowed to remain there half an hour. An unusual amount of phlegm was early noticed to pass from the air passages; it was found upon the pillow, or in the mouth of the child; occasionally a cough would extrude it. For the first few days, it was incapable of swallowing; but there was no serious difficulty in respiration, except when an attempt to excite deglutition by passing fluids into the fauces, suspended breathing for some moments, and cyanosed the child. These attacks of suspended respiration, after the first five days of life, came on independently of extraneous causes.

As the child lay quiet, the face would gradually become livid, the breathing apparently ceasing, and death seeming imminent. From careful study, it was established that this was a real choking, precisely similar to that produced by allowing fluids to pass into the throat. The exciting cause was the thick, tenacious phlegm above alluded to. When there was strength to cough this off, the paroxysms were arrested. When the swab removed it, animation was restored. In no instance, during these attacks, did the efforts of the nurse to dislodge this mucus entirely fail. The trachea contained it in abundance. Tubes passed into this passage came out covered with it. After two weeks, the violence and frequency of the paroxysms diminished.

Desiring to demonstrate to the members of the Society before which the paper was to be read the actual patency of the foramen, this arrangement was effected. The septum was laid, the left side downward, loosely over the end of a perforated cork, and secured in place by pins, at the margin. A gentle stream of water was then passed through the cork, from below upward; and, to the astonishment of all who had previously examined the heart, the valve sprang to its place, completely closing the foramen.

Conviction that this is not the first instance in which an imperfect examination of the valves of the heart has led to error, is my apology for giving the history of this mistake in detail.

After five weeks, they entirely ceased for a fortnight; but again recurring, the child sank, after seven weeks more of suffering. In the last hours of life, the respiration was hurried, and there were slight convulsive movements of the muscles of the eye.

During the three months of its existence, this child scarcely swallowed enough to sustain a vigorous infant one week; and yet its condition, as to flesh, was hardly changed from birth to death.

The patient was stimulated by external and, as far a practicable, by internal means. Several times, milk was injected into the stomach. Life was for the most part sustained by keeping the body swathed in cloths soaked in cod-liver oil.

An autopsy, ten hours after death, showed the brain and abdominal organs healthy. The lungs were mottled in color, the tints varying in lobules between a light yellow and a light red. There was nowhere the characteristic color of *recent* atelektasis. In the most dependent portions there was a line of *post mortem* engorgement. The anterior third of both lungs was healthy. The posterior two-thirds were more or less collapsed. The surfaces of these portions were irregular; nodulated in lobules—the lobuli were not in the same plane. Some of these were normal; some contained a little air, and others were completely carnified. A moderate inflating force, sufficient to expand the healthy lung of an adult, failed to fill the collapsed portion. Some of the lobuli filled well; others imperfectly; many not at all. The heart was normal—the ductus arteriosus was closed, and the valve of the foramen ovale was perfect, but not adherent in the anterior inferior third of its circumference.

REMARKS.—The original difficulty in the first case was probably indigestion, and consequent diarrhœa and debility: the collapse of the lung following as a consequence of the loss of that physical force necessary for the performance of the respirtory act.

In the second case, from birth there was a lack of vitality. The child could neither swallow nor cough efficiently; its bowels were torpid. This general feebleness invited a collapse of lung

tissue, which in turn was a cause of congestion, and of effusion into the respirtory organs—a cumulation of diffieulties which could hardly terminate otherwise than in death.

Doubtless many cases of transient eyanosis oecurring in infaney, eommonly referred to irregularity of the heart's aetion, are examples of eollapse of the lung. The following case, kindly furnished by Dr. GROESBECK, is supposed to be of this character. In a note to the writer, Dr. G. says:—

"The child was naked, the surface eool, skin pale, lips livid; respiration feeble and imperfect, with a mueous rale. While looking at it, the breathing suddenly eeased, the faee and lips became more livid, and the child seemed to be dead. In a few moments after, it gasped, and gradually a feeble respiration was established, and the eyanosis disappeared. The physician who arrived before me, finding the throat filled with mueus, had made an effort to dislodge it by means of the finger; tickling the throat with a feather; and turning the ehild upside down. He then endeavored to inflate the lungs; used the warm bath; and applied hot mustard water to the surfaee freely.

"This attendant having treated the patient very heroieally, I, in aeeordanee with medical usage, adopted an entirely opposite mode of treatment. The child being naked I left it so, but had it wrapped up in warm flannels. Adopting Dr. MEIGS' suggestion in eyanosis, I had the child laid upon the right side, and ordered it to be kept so and not to be disturbed by moving or dressing. I had some food put into a nursing-bottle, and the nipple gently introduced into the child's mouth. It took a teaspoonful, and then had an attack of what I shall eall syneope. These faintings occurred frequently during this and the ensuing day. The third day, the child appeared so much better that I had it put to the breast. It nursed vigorously; and from that time reeovered. The question now is: What was the eause of this condition? My own opinion is, that it was imperfeet expansion of the lungs, ending in collapsed lung and a partial resumption of fatal circulation. The eauses that are supposed to favor, or bring about this condition are, among others, speedy birth and exposure to eold, both of which oeeurred in this ease,

as the child was suddenly propelled from the brim of the pelvis into the world by one continuous pain. The nurse had not yet arrived; and the child was wrapped in a muslin skirt and laid aside for her to dress. The morning was chilly. The nurse did not arrive until two hours after the birth of the child.

"Here we have two supposed, primal, causal conditions in full action. Dr. JORG says, that in a sudden birth the child does not have the 'besoin de respirer;' and that the fœtal circulation continues in a degree, and consequently the respiration is feeble and insufficient to inflate the lungs; and then we have the train of symptoms which occurred in this case. The depressing effect of cold, enfeebling the respiration, the lungs collapsing gradually from want of air to expand them, would be very likely to establish the fœtal circulation so recently stopped, and the child would exhibit the phenomena stated above."

ARTICLE XXXV.

THE THERAPEUTIC PROPERTIES OF BROMIDE OF AMMONIUM.

BY IRA HATCH, M.D., of Chicago.

Communicated to the Chicago Medical Society, Oct. 9, 1863.

The *London Lancet* for April, 1863, contains a notice of the bromide of ammonium.

Dr. GIBB recommends it highly in nervous affections, in diseases of the mucous membranes, and in epilepsy.

It will be recollected that in a communication to this Society, a few months ago, I expressed the opinion that remedies would yet be found that would act far more effectively as sedatives upon the mucous surfaces, than any hitherto known to the profession. If Dr. GIBB'S statement with regard to the bromide of ammonium may be relied on, or if it should be confirmed by further experience, a very important discovery, looking to this end, has already been attained. He says, that "the mucous membrane of the whole body is brought more or less under its

control. Trembling, nervousness, and general uneasiness quickly subside under its use. It calms irritation, and allays nervous irritability."

Soon after this account of the bromide fell under my eye, I had some cases which I thought would test the value of the medicine.

One was a case of chronic liver complaint, of long standing, complicated with a diseased condition of the mucous membranes. The patient had had fits of indigestion, vomiting of bile, a sallow skin, and irregularity of the bowels for a long time. She had had chronic bronchial asthma for at least twenty years. She had been subject, from a child, (she is now over forty years old) to distressing turns of sick headache, with vomiting, fainting, and palpitation of the heart. During these paroxysms of headache, the dyspnœa, dizziness, blindness, and numbness were really alarming. Succeeding one of these paroxysms, she had hemiplegia, which lasted several weeks, but finally wore off under the use of counter-irritants to the spine, and the internal use of nux vomica. But it left her nervous, restless, and constantly apprehensive of another attack.

She is a married woman, but has never borne children. The catamenia have always been defective; menstruation sometimes irregular, and at other times painful or altogether wanting.

In order to allay nervous irritation, I gave her bromide of ammonium, in two grain doses, four times a-day. It promptly relieved the nervous irritation, and produced a calm quiet. She was inclined to sleep more than usual.

At present she is taking no medicine regularly. Her health is better apparently than it has been for several years. When she feels particularly nervous, she takes a dose of the bromide, which is not often necessary. I do not anticipate any very lasting benefit. There is too much organic disease to expect it. But the experiment shows the sedative properties of the remedy.

The fungous granulations of the throat and back part of the tongue have very much diminished in size and improved in appearance. But this may not have anything to do with the

bromide. I may add here, that she has been greatly benefited by the ext. nux vomica and quinine and iron, to which I mainly attribute the present improved condition of her health.

Another case in which I have used the brom. amm. was a woman thirty-nine years old, fifteen years married, but had never borne children. She is of a nervo-sanguineous temperament, the latter temperament largely prevailing.

A considerable portion of the time since puberty she has been the victim of dysmenorrhœa and leucorrhœa, with occasional turns of dyspepsia. The bowels have generally been constipated. She never has been anæmic or emaciated; but her countenance has generally been indicative of health.

Last fall she became pregnant. In March, the seventh month of her pregnancy, she took hooping-cough, which ultimately produced uterine hemorrhage, followed by pains; and she was delivered of a still born child on the 3d of April last.

The labor, as well might be expected, was tedious and painful. The os uteri was somewhat rigid and excessively sensitive. The pains, though light, distressed her exceedingly. Her recovery was slow and tedious.

She lost her strength and appetite, and became very nervous. She had fits of swooning, evidently of a hysterical character. She laughed and cried in the same breath. She would not be left alone in her room for a moment. Yet there did not seem to be any adequate cause for such nervousness. There was no fever; no tenderness of the abdomen; lochia slight; and no leucorrhœa. Pulse, respiration, and skin natural.

The bowels were constipated, and every evacuation prostrated her wonderfully, and aggravated all her nervous symptoms. No hemorrhoids discoverable. At this time, with no other view than to allay nervous irritability, I prescribed

℞.—Bromide Amm., ... ℥ij
Syr. Prun. Virg., ... ℥iv.

Dose, one teaspoonful every six hours.

The effect was most gratifying. A moderate leucorrhœa immediately made its appearance.

She rested well the first night and ever afterwards. She

had no more fainting fits or palpitation. Her recovery, from this time, was steady, uniform, and complete. In June, she went East, where she spent the summer; and I saw no more of her till ten days ago, when I was called to visit her for another complaint.

After her sickness, which was temporary, had subsided, I investigated the old complaint, and found that she had menstruated freely, without pain, and had experienced none of her old troubles, with the exception of a slight leucorrhœa, which, on inspection by the speculum, was found to issue from the neck of the uterus, and was thick, tenacious, and transparent.

She told me in the presence of a homœopathic lady, that she had a remedy in the bromide of ammonium that would control the pain and nervousness which had tormented her so long, and for which she had never before found any relief, except by opium; and that destroyed her appetite, and generally made her sick for a week afterwards. She is an intelligent lady, and I think her testimony is worth something. She is one of the kind, too, who never have had much faith in medicines, being homœopathically inclined.

The medicine seemed to act, as a direct sedative, upon the mucous membrane of the cervex uteri, much in the same manner as cleavers act upon an irritated urethra, or as buchu acts upon the bladder. It allayed the local irritation, and the constitutional symptoms disappeared.

The patient had been tormented for years with painful menstruation and uterine leucorrhœa. The primary difficulty was located in the neck of the uterus. Dr. Tyler Smith says, (what we all know to be true) that the mucous membrane of the upper portion of the neck is sometimes remarkably sensitive; and is nearly as intimately connected with the mental emotions as the lachrymal gland.

This accounts for leucorrhœa from mental excitement. The hysteria, palpitation of the heart, and other nervous symptoms of our patient were the result of the excessive irritability of the upper portion of the neck or inner sphincter, usually called the os internum. In nervous irritable women, rendered so by

uterine troubles, is not the point of irritation situated in this portion of the cervix uteri? This portion is highly organized, and is always sensitive, even in the healthy woman; made so, undoubtedly, to guard the sacred enclosure within.

A highly organized, sensitive part becomes doubly so whenever the action of such part becomes diseased. The os internum sometimes becomes very irritable in pregnancy; causing obstinate vomiting, and other distressing nervous symptoms. It would seem, sometimes, as if this part of the neck were the centre of nervous sympathy in the female. Not only the stomach but the uterus itself and the ovaries are powerfully influenced by any disturbance of this part. It is well known that a very slight but continued artificial irritation of the os internum will cause abortion. Nothing more is needed than to pass through it a smooth elastic tube, and let it remain till pains come on. In amenorrhœa, depending upon certain local causes, the tube is a sovereign remedy. In vicarious menstruation this course is certain to restore the natural mentrual flow.

Some years ago, I saw a striking exemplification of this truth, in a lady long afflicted with vicarious menstruation. Each menstrual period was preceded by the most distressing symptoms of congestion of the lungs; followed by a true catamenial secretion from the lungs, (unless prevented by treatment.) . The patient had been many times copiously bled, and subjected to a variety of treatment. She was pale, thin, nervous, and hysterical; thus verifying the assertion of Dr. PREECH, of Paris, that "in all cases of vicarious menstruation which had been carefully observed, antecedents either of hysteria, or of an exaggerated sensibility, have been noticed."

In this condition, she put herself under the care of Dr. KIBBEE, of Springfield, Mass. He treated the case by introducing the tube every month; anticipating the menstrual period, generally, a day or two.

She always menstruated, per "*vias naturales*," within forty-eight hours after the introduction of the tube. She eventually recovered, and is now well and hearty.

I introduce this case to show the effect of irritation of the os

internum, when produced artificially. Does not menorrhagia sometimes arise from irritation, owing to a morbid condition of the os internum? Do not abortions often arise from the same cause? Does not dysmenorrhœa almost always arise from an excessive sensitiveness, and consequent spasmodic contractility of the os internum, which is in fact a sphincter? Do not puerperal convulsions, especially those of a hysterical character, sometimes arise from the same cause?

Judging from the effect produced by artificial irritation of the os internum, we may infer that like effects would ensue from a morbid condition or irritation of this part. Any remedy that will allay irritation in this centre of sympathy in the female, would be of inestimable value. I do not pretend to say, that bromide of ammonium will do it. It requires further trial. I *think* it applicable in all cases of nervous females, where the nervousness arises from uterine irritation. It may extend to all irritations of mucous surfaces.

IMPROVED METHODS OF TREATMENT IN DEFORMITIES.

By E. ANDREWS, A.M., M.D., Professor of Surgery in Chicago Medical College.

In previous articles, I have figured and described several pieces of apparatus, which I use for the cure of spinal curvatures. There are numerous other appliances which are valuable adjuvants to the main treatment, among the most important of which is what the German surgeons call the "stretcher-bed." This machine consists of a couch with various appliances at the head and foot for making extension and counter-extension upon the spinal column; by means of which, like a string put under tension, the curves of the spinal column are drawn gradually straight. The first successes obtained by this invention produced quite a furor in its favor in Europe; and its popularity was such as to occasion the satire, that "many seemed to

imagine that nothing more was necessary to constitute an orthopedic surgeon than a stretch-bed and patients."

The extending power in this machine consists of springs or weights and pulleys, applied both at the head and the foot of the bed, the weights being preferable. The upper extenders were applied to the head, in case of high curvature, and to the shoulders when the difficulty was lower down. The lower extension was applied to the bulge of the hips or to the feet. The patient was not usually required to remain continuously in the machine, but was placed in it, at intervals, from two to four times a-day; but the more time he could spend in it, without injurious loss of exercise, the more rapid was his improvement.

Although the extravagant admiration at first felt for the stretch-bed has greatly subsided, it still remains as a very valuable instrument, which no one undertaking the treatment of spinal curvatures can afford to do without. It may be specially and elaborately constructed for hospital purposes, or be extemporized out of an ordinary bedstead in private practice. For hospital purposes, the bedstead may be made of wood or iron. It should be not less than eight feet in length, by three and a-half in breadth. The great length is required to make space above the head, and below the feet for elastic straps and other extending appliances. There should be no head nor foot board, but instead of them a long roller of wood, three inches in diameter, extending from post to post, across the head and foot of the machine, and turning easily on iron axles. Above each roller should be a strong crossbar of wood, into which iron pullies may be set in various positions, as the surgeon may from time to time desire. The mattress should be of curled hair, rather hard, and made level and smooth. Pillows and bolsters can be varied according to the necessities of the case.

For temporary use, in private practice, a stretch-bed may be improvised out of the ordinary bedstead, by cutting openings through the head and foot boards, and setting in some small cast-iron or brass pulleys, such as may be found in any hardware store.

If the deformity is in the upper portion of the spine, an ex-

tension is attached to the head, by means of a firm leather band, moulded to the occupit, and provided with two branch straps, one to cross the forehead, and the other to pass under the point of the chin. This must be very carefully constructed, or else it will be too irksome to be borne, but when well fitted, it is borne without pain. A short band passes upward from each side of the head, and attaches to a cord which is passed over the pulley and supports a weight. The counter-extension is made by a cord and weight at the foot of the bed, in a similar manner, and may be attached to the patient either by adhesive straps applied to the legs, or by a strong waist buckled around the bulge of the hips. The weights should vary from five pounds upward, according to the ability of the patient to tolerate it. If this apparatus is properly constructed and applied, the patient will enjoy free motion both of upper and lower extremities, and can turn on his back, his face, or either side, without interfering with the extension, or rising from the bed. No effort should be made to keep the patient continually on the stretch-bed, except in cases where he is unable to sit or walk. He should resort to the bed from two to four times a-day, and remain from half an hour to an hour and a-half each time. The remainder of the time he should either wear a proper supporter—such as I have described in a former article,—or be occupied by gymnastic exercises calculated to correct the deformity. Some patients will be able to sleep in the stretch-bed after a little practice. In these cases they should by all means do so, as it adds the whole of the sleeping hours to the treatment, and very much hastens the recovery. If the deformity is below the sixth dorsal vertebra, the upper extension should be applied to the armpits and chest by proper pads in the axilla, and by broad adhesive straps upon the back and chest, attached to the extending cord. When properly used, the stretch-bed exerts a very powerful influence in unfolding spinal curvatures, and the worse the deformity the more striking are its results. One of the most prominent symptoms of improvement is the surprising increase of stature which the patient exhibits as the spinal column comes out to a correct line.

GYMNASTICS.

The cure of some forms of curvature of the spine, and of all anchylosed joints, is greatly promoted, and may be entirely accomplished, by proper specific exercises, either active or passive. It is almost impossible to introduce this part of the treatment fully into general practice, on account of the amount of time required to be spent with the patient, either by the surgeon, or by a trained assistant, but parts of it will be found useful to every practitioner. The excreises are active and passive, the former being executed by the patient's own muscles, and the latter by the hand of the surgeon. Thus, for instance, if the patient has a slight double lateral curvature, and he be directed to elevate the shoulder on the side of the concavity of the upper curve (usually the left,) and depress the opposite one, and to curve the spine in the direction opposite the deformity, the practitioner at the same time guiding and assisting the motion with the hands, it will be found that the spine is momentarily restored to its normal shape. If she now repeat these motions with the same assistance many times, until fatigued, every day, the muscles which are thus trained will acquire a prodigious development, and their antagonists remaining undeveloped, they gain the mastery, and by their own superior tension ultimately correct the deformity. The bones and ligaments yield slowly to the pressure, until their shapes are perfectly restored. This is the principle of Ling's Swedish "Movement Cure," which, in a debased and spoiled form, is now hawked about the country, by sundry quacks. Some additional excreises are performed in most cases. Thus a cushioned post is prepared, and set firmly in the floor, across the top of which the patient is made to lean, and by repeated efforts of the surgeon, is made many times in succession to flex the curved spine, in the direction opposite that of the deformity.

Anchylosed joints are treated by constantly repeated exercises, both active and passive, until by degrees the fibrous bands are elongated, and mobility established. A vast number of other exercises have been devised by various orthopedists, some of which are useful and some not, but the principles involved are the same throughout.

STATE OF ORTHOPEDIC SURGERY IN EUROPE.

Dr. LING, of Stockholm, was one of the earliest lights in orthopedy. His system of treatment consisted mainly in the series of gymnastic exercises alluded to above. He gave a strong impetus to the treatment of deformities; and his institute was under the patronage of the government for forty years. Sundry rags and tatters of his ideas, under the name of the "Swedish Movement Cure," constitute the stock in trade of numerous American quacks.

WILDBERGER, of the Orthopedic Institute in Bamberg, mostly discards Ling's gymnastics as useless, because they are very unsuccessful in spinal diseases. This is, in a great measure, true, Ling's exercises being better adapted to diseases of the extremities than of the spine. WILDBERGER, on the contrary, gives most of his attention to spinal deformities, and treats them mainly by a variety of splints and supporters, which slowly and steadily force the curvatures back to a straight line. His apparatus is thorough and efficient in its action, and has the merit of allowing the patient to walk about and exercise while it is worn; but most of it is complex and clumsy in structure, being in striking contrast, in that respect, with American instruments.

Dr. MELICHER, of Vienna, has an orthopedic institute, in which he does, or at least did, a few years ago, rely almost exclusively upon Ling's gymnastics.

Dr. BEREND, of Berlin, has an establishment in which he treats his patients by tenotomy, or other surgical operation, when required, and by the stretch-bed and other machinery, after which he completes the cures by gymnastics alone.

Dr. SCHREBER, of the Leipsic Orthopedic Institute, treats his patients upon a stretch-bed, of which the extending force is produced by steel springs. The bed is also provided with lateral steel springs, to press in the convexities of the curved spines. His institute is but little patronized.

Dr. KJŒLSTADT, of Norway, has complex system something like the following. He first places his patient upon a stretch-bed, during certain hours. Then taking him up, he places him in a peculiar machine, in which he marches him with short

steps around the room. Then laying him down, he kneads the joints and muscles with his fists, and then returns him to the stretch-bed again. He is said to possess very little adaptive power, treating all kinds of cases alike.

Dr. ROTH, of London, has an institute, in which he follows Ling's method, combined with the Russian bath,—that is a bath having a series of sudden alternations between hot and cold water.

Dr. NITZSCHE, of Dresden, takes complete possession of his patients, occupying their whole time with curative measures, making extensive use of gymnastics and electricity. Spinal curvatures go through the following course:—In the morning, he first washes the patient's back with cold water; then laying him on his face, he rubs him down with alcohol, and proceeds to knead and press the back in a systematic manner. He then practices the sufferer on motions to straighten the spine by the action of his own muscles. Next comes a series of exercises in which the spine is stretched between rollers, and the patient is made to swing by his hands, head, &c., &c. All this is the morning lesson. In the afternoon it is repeated, and the evening is occupied with gymnastics; after which his patients are said to sleep well. If they are not cured it certainly is not for want of diligence.

Dr. KLEPSCH, of the Breslau Institute, uses stretch-beds, electricity, and a variety of instruments for club-feet, and other deformities.

Dr. KNORR, of Munich, takes substantially the same course, adding to it, however, a system of gymnastics and of water cure.

Dr. PARROW, of the Orthopedic Institute, in Bonn, has a kind of chair constructed for straightening the spine. He also makes use of a great variety of apparatus, among which are pulleys, springs, and sundry handles pendent from the ceiling, upon which the patient practices swinging by one or both hands, as the case requires.

Drs. EBENER & GROSSMAN, of Stutgard, regard instruments as indispensible, employing stretch-beds, corsets, supporters, &c., and adding also active and passive gymnastics.

Prof. WERNER, of the Gymnastic Academy, of Dessau, employs corsets, supporters, streteh-beds, and baths, together with active gymnasties, but condemns the passive gymnasties as useless. In this, however, he is certainly in error, as the passive movements are very often the only ones which are possible at the commencement of the treatment.

STATE OF ORTHOPEDIC SURGERY IN THE UNITED STATES.

In this country, the eure of deformities is an almost completely neglected art. A few good men are zealously cultivating it in the larger Eastern cities; but in the West, it has only just begun to receive attention. For this reason, the whole country is filled with neglected spinal curvatures, bent knees, uncured club-feet, and anchylosed elbows. Many of these cases are perfectly curable, even when of many years' standing, and should be at once taken in hand. The cases of spinal deformity are especially to be commiserated, because they are usually taught to look upon their state as hopeless; whereas, a large portion of them are capable of being restored to soundness and perfect form. It is the hope of the writer, that these articles may arouse the attention of our surgeons to their duty; and prevent these cases from being turned over to the maltreatment of lying, itinerant quacks.

GONORRHŒAL OPHTHALMIA.—This formidable affection yields with marvellous rapidity to repeated weak injections. In the most acute cases a solution of a-quarter of a grain of nitrate of silver to the ounce of distilled water should be injected beneath the upper lid, with a syringe, every ten minutes, for the first hour; after that, a-half grain solution should be injected every half-hour. If this is carefully carried out for the first 24 hours, the patient's eye will be quite safe. A stronger solution may then be used, but less frequently, and in a couple of days, if the villous condition of the conjunctiva should seem to require it, Guthrie's ointment of nitrate of silver may be used. These weak solutions are quite useless unless very frequently applied; but if so used, scarcely an eye need be lost from gonorrhœal ophthalmia. (Dr. M. H. Collins, page 183.)

Selections.

EMPLOYMENT OF POSITION IN CONTROLLING HÆMORRHAGE.

By FRANCIS B. QUINLAN, M.D., Trin. Coll., Dublin.

Pain, shock to the nervous system, and hæmorrhage may be fairly considered the principal sources of immediate difficulty and danger in the actual performanceof extensive surgical operations; and as the all but universal employment of anæsthetic agents has, to some degree, neutralized the first two impediments, it may be of advantage to recur to a plan of diminishing venous hæmorrhage, which employed and described in the year 1845, has since been frequently resorted to, although not always with due acknowledgment to Dr. O'Farrell of St. Vincent's Hospital, the distinguished surgeon by whom this plan was first devised. It will be admitted that, while most cases of arterial hæmorrhage are susceptible of comparatively easy control, there is scarcely any bleeding so rapid, so tremendous, or so alarming in its effects as that experienced in the removal of large scrotal tumors, when the enormous tortuous veins, usually found in connection with these growths, have been divided while in a state of repletion; and it is to guard against such hæmorrhage that the plan to which I have alluded is especially directed.

The accuracy of these statements will be easily established by a brief review of some operations of the kind which have been performed with and without having recourse to this plan.

In the first of these cases, a large scrotal tumor, weighing about fifty pounds, was removed by the late Mr. Liston, the veins being in an engorged condition. Upon the first incisions being made, the blood flooded out, to use the words of that celebrated operator, "as from a shower-bath;" the patient rolled in exhaustion and agony from the table, and the operation was completed upon the floor; the patient collapsed, and was with difficulty restored by the energetic exhibition of stimulants. In Mr. Ashton Key's operation, performed upon the Chinese Hoo-Loo, the results were similar, but from the feeble Asiatic temperament of the patient, more disastrous. The operation lasted an hour and three-quarters, and the patient, who had shown some signs of syncope during its continuance, died immediately after its conclusion. It may be observed that in both these

cases the genital organs were necessarily sacrificed in an effort to hurry the operation to a conclusion, in order to save the patient from impending death from hæmorrhage.

Results of this character, occurring in the hands of some of the first operators of the day, were sufficiently appaling; and it speedily became evident that, unless some means could be devised to diminish this excessive hæmorrhage, the removal of such tumors must, like the extirpation of bronchocele, be for the present abandoned. It was, therefore, with peculiar satisfaction that the profession learned, in the *Dublin Hospital Gazette*, of February, 1845, that a method of operation had been devised by Dr. O'Farrell, by means of which he had removed an enormous scrotal tumor (fully equal to those removed be Liston and Ashton Key) without difficulty, in eight minutes, and with the loss of only five ounces of blood; the genital organs being preserved, and the patient having made a good recovery, notwithstanding attacks of erysipelas, and various other unfavorable circumstances. Such an announcement could not fail to be in the highest degree gratifying; and it became all the more so when it was found that the importance of Dr. O'Farrell's plan of operation was only equalled by its extreme simplicity. Observing the great change produced in turgid varicose veins of the leg by placing the patient upon his back and elevating the limb, and the immediate arrest of hæmorrhage from such veins which ensues upon the adoption of this position, it occurred to Dr. O'Farrell that, if the enlarged scrotum were held up, a similar withdrawal of the vital fluid would take place, particularly as regards the enlarged and tortuous veins which were the principal sources of hæmorrhage.

The result completely justified the accuracy of this expectation—the more so as the hæmorrhage in these cases had been always observed to be principally of a venous character; the arterial hæmorrhage, in Ashton Key's case, being estimated to be scarcely one-twentieth of the whole.

Since the publication of Dr. O'Farrell's plan, a complete change had occurred in these operations, which have since been performed in rather considerable number, and with an ease and success more or less resembling that experienced in his case. I now recur to the plan, because in two instances of operation, published during the present year, (in one of which an Asiatic was the subject,) it apears to me that the able and successful operators, although adopting the method, omitted, in their reports of the cases, to make due acknowledgment to the author; contrasting, in this respect, with Mr. South, who, in his splen-

did work on Surgery, gives due prominence to Dr. O'Farrell's plan.

The application of this method is by no means limited to the removal of large scrotal tumors. On the contrary, it has been resorted to by Dr. O'Farrell in cases of considerable innocent tumors of a vascular character; and in amputations he has obtained great advantages by loosely applying the tourniquet, elevating the limb, emptying it of venous blood by manipulation, and then tightening the tourniquet. The limb can thus be kept in a state of comparative anæmia while the amputation is being accomplished; and a loss of blood can be prevented, which, by deteriorating the general quality of the vital fluid, might lay the foundation of much subsequent disease. In fact, the value of a position by which the entrance of arterial blood into a limb will be retarded, and the exit of venous blood facilitated, is almost as useful in the performance of an operation as in the treatment of inflammation.—*London Medical Times and Gazette.*

Book Notices.

A Practical Treatise on the most Obvious Diseases Peculiar to Horses, Together with Directions for their most Rational Treatment; Containing, also, some Valuable Information on the Art of Shoeing Horses. By George H. Dadd, V.S., Author of "Anatomy and Physiology of the Horse," "Modern Horse Doctor," etc., etc., and Principal of the Veterinary School of Chicago. Chicago: S. C. Griggs & Co. New York: Blakeman & Mason; C. M. Saxton. 1863.

We are pleased, in looking over this work, to see the steady advance Veterinary Medicine is making. Idle notions of disease are being set aside, and the Veterinary Surgeon, calling to his aid scientific modes of investigation, and acting in the light of facts in human pathology and therapeutics, is rapidly placing his work on a plane parallel with ours.

We commend the book to all interested in horses; and the physician may find in it some useful hints. For instance: one of Dr. Dadd's patients was a "regular hysterical subject during the menstrual periods, uncontrollable and amaruotic;" the diseased ovaries are removed, and a permanent cure follows. Here

is material for the pathologist and therapeutist, and especially for the psychonosologist.

The Principles and Practice of Ophthalmic Medicine and Surgery. By T. Wharton Jones, F.R.S., Prof. of Ophthalmic Medicine and Surgery in University College, London; Ophthalmic Surgeon to the Hospital, etc.; with One Hundred and Seventeen Illustrations. Third and Revised American Edition, with Additions, from the Second London Edition. Philadelphia: Blanchard & Lea. 1863.

This is a neatly executed volume of 455 pages octavo, the author of which, is already well known to the profession. It is an excellent practical treatise on the Medical and Surgical Diseases of the Eye; and is well adapted to the wants, both of the student and the practitioner.

For sale by W. B. Keen & Co., 148 Lake Street, Chicago.

Synopsis of the Course of Lectures on Materia Medica and Pharmacy, Delivered in the University of Pennsylvania; with Three Lectures on the Modus Operandi of Medicines. By Joseph Carson, M.D. Third Edition Revised. Philadelphia: Blanchard & Lea. 1863.

This is an octavo volume of 244 pages, containing a simple outline or rather skeleton of the course of lectures given by Dr. Carson in the University of Pennsylvania. It is specially designed for the use of students attending that school; and certainly the greater part of its contents can possess very little interest or value to any one else. The only part of the work of real interest to the general practitioner, is the last 38 pages, comprising three lectures on "the Operation of Medicines through the medium of the Nervous System, and by Absorption." These three lectures are published in full, and contain a very interesting summary of facts and opinions in relation to the highly important subject under consideration.

For sale by W. B. Keen & Co., 148 Lake Street, Chicago.

A Report on Hospital Gangrene, Erysipelas and Pyæmia, as Observed in the Departments of the Ohio and Cumberland. With Cases Appended. By M. Goldsmith, Surgeon U. S. V. Published by permission of the Surgeon-General of U.S.A. Louisville. 1863.

This is a very interesting report or monograph of 95 pages,

bound in cloth. The subject discussed is a very important one, and the facts presented in this paper cannot be studied too closely. We have not time or space to review the work in the present number of the EXAMINER, but shall refer to it again soon.

Editorial.

CLINICAL CASES IN THE MEDICAL WARDS OF THE MERCY HOSPITAL.

During the past two months, the wards of the Mercy Hospital have been unusually crowded with patients laboring under the most severe and important forms of disease; and the senior class of students in the Chicago Medical College have enjoyed most excellent clinical advantages. During the discussion of continued fevers, in the College, they were enabled to observe in the Hospital, directly at the bedside, the symptoms, progress, and treatment of twelve cases of typhoid fever: illustrating almost every aspect of that disease, with its varied complications.

One of these cases so strikingly illustrated an important practical idea, that we will briefly relate it:—

Mr. —, a native of Ireland; aged about 35 years; laborer; was admitted into the Hospital with typhoid fever, complicated with pneumonic inflammation, involving the middle and lower lobe of the left lung. He had been sick about four days previous to his admission. At that time his face was flushed; lips dry and red; tongue covered with a thick coat, reddish brown and dry in the middle; skin dry and moderately hot; pulse 110 per minute, and soft; abdomen slightly tympanitic, and bowels loose—the discharges being thin and occurring every two or three hours; respiration short and frequent, being somewhat stifled by an acute pain in the infra-axillary region of the left side; some cough and expectoration tinged with blood. Dulness

on percussion and sub-mucous rhonchus existed over all the lower half of the left side of the chest. As the typhoid condition of the patient was well marked, and the first stage of the pneumonic inflammation already passed, the treatment directed for the patient was as follows, viz.:—To restrain the typhoid looseness of the bowels, one fluid drachm of the following emulsion was given every four hours:—

℞.—Ol. Terebinth,..... ℥ij.
Tinct. Opii,..... ℥ij.
Pulv. G. Acacia, ...
Sacchar. Alba, ... } ℥iij.
Aqua Menthæ,..... ℥ij. Mix.

To relieve the pain in the side and counteract the pneumonic inflammation, a blister was applied to the left side of the chest, and one of the following powders given every four hours, alternated with the emulsion:—

℞.—Pulv. Opii, ... 10 grs.
Pulv. Sanguinaria, ... 6 grs.
Hydrag. Chlorid. Miti, ... 6 grs.
Sacchar. Alba, ... 30 grs.

Mix and divide into six powders.

Beef tea and milk porridge were directed for nourishment.

At the end of the first 24 hours of the treatment, the calomel was omitted from the powders, and two grains of quinine substituted in its place; but in all other respects the treatment was continued, without change, until the morning of the fourth day. The patient appeared then much improved. The abdomen was not tympanitic; and no movement of the bowels had occurred during the preceding 24 hours. The tongue and skin were moist, and the pulse 90 per minute and soft. There was no pain in the side, except on coughing or taking a forced inspiration, but the left side was still very dull on percussion, with some mucous rhonchus, and expectoration slightly tinged with blood.

The symptoms altogether were so much improved that the previous medicines were discontinued, and a simple anodyne expectorant ordered, as follows:—

℞.—Comp. Honey of Squills, &c., ... ℥j.
Tinct. Sanguinaria, ... ℥ss.
Tinct. Opii et Camph., ... ℥jss.

Mix, and give a teaspoonful every three hours.

Continued animal broth and milk porridge for nourishment. This treatment was ordered on Saturday and continued until Monday, when the clinical class met in the Hospital for the usual hour of instruction at the bedside. On approaching the bed of the patient, it was evident at a glance that he had undergone a decided change since our previous visit. The countenance was expressive of anxiety and restlessness; the face was suffused with a dark purplish redness; the pro-labia were leaden color; the skin on the extremities cool, and capillaries congested; the respiratory movements irregular and feeble; the pulse small, variable, and intermitting; and the impulse of the heart weak. There was constant mental wandering or delirium, with moderate subsultus. The whole left side was dull on percussion. Three or four thin, fecal evacuations had occurred during the preceding 24 hours, with an evident impairment of the action of the sphincter ani. It was evident from the foregoing symptoms, that the patient was rapidly tending towards a fatal degree of depression. By a careful analysis of the symptoms before the class, it was rendered evident that this depression consisted mainly in a failure of the nervous centres, more especially of those of the excito-motory system of Marshall Hall, as indicated by the enfeebled respiration and circulation; and in impaired contractility of the muscular tissues, with imperfect decarbonization of the blood. The enfeebled action of the heart, accompanying such a condition as here described, and occurring during the progress of typhoid fever, is highly dangerous, and not unfrequently productive of unexpectedly fatal results. To counteract this condition, the liberal use of alcoholic stimulants is very generally resorted to by the profession. And if the lungs are free from obstruction, they will sometimes produce the desired effect. But their constant tendency to retard atomic changes in the tissues, and lessen the elimination of carbonic acid gas from the lungs, renders them inapplicable and often

positively injurious in such cases as the one under consideration, in which pneumonic obstruction exists throughout the whole of one lung and the blood very imperfectly decarbonized. Does the materia medica afford us any remedy which, by its efficient action on the involuntary nervous centres and on the contractility of the muscular and fibrous tissues, is specially adapted to the present case? The therapeutic properties of strychnine are such as to render it more perfectly applicable to the treatment of such a case than any other remedy with which we are acquainted. For several years, we have been in the habit of resorting to it in all cases of typhoid disease, during the progress of which there occurred unusual depression of the excito-motory nervous functions, as indicated by feebleness of respiration, feebleness of the heart's action, and impairment of the sphincters; and generally with prompt benefit. In the present case, we directed the emulsion to be continued in doses of one fluid drachm every four hours, with two grains of tannate of quinine in each dose; and the strychnine to be given alternately with it, as follows:—

℞.—Strychnine, ... 1 gr.
Nit. Acid, ... ℥j.
Water, ... ℥ij.

Mix, and give one teaspoonful in a little sweetened water every four hours. Continue beef-tea and milk porridge for nourishment.

In twenty-four hours the heart's action had become steady and uniform, although the pulse was still small and weak. The expression of countenance and the respiratory movements were also improved; but the delirium and sleeplessness continued, with much dulness in the left side, and expectoration tinged with blood. The bowels continued quiet. The strychnine and nitric acid solution was continued, but, instead of the emulsion and quinine, he was directed a powder of pulv. Doveri, 8 grs., and pulv. g. camph., 2 grs., between the doses of strychnine, and an additional blister to the side. From this time the delirium steadily diminished; the patient had intervals of quiet sleep; the respiration and circulation improved daily; and in

one week from the time he commenced the strychnine he was convalescent; although there remained some dulness over the left side, with moderate cough and expectoration. These disappeared during the succeeding week, under the use of mild anodyne expectorants, and the patient was discharged.

Case II.—Mr. C., aged about 25 years, was admitted into ward No. 7, Mercy Hospital, Nov. 21st, complaining of severe aching pains in his head, back, and limbs, with a harsh bronchial cough, accompanied by a sense of soreness and constriction in the central part of the chest. The tongue was partially covered with a white fur; the skin dry and above the natural temperature; pulse 95 per minute, moderately firm; respirations slightly increased in frequency; and bowels quiet. On close inquiry it was found that distinct rheumatic inflammation and swelling existed in the ankles and knees, and in one wrist. But neither auscultation nor percussion afforded any evidence of the existence of pneumonic inflammation. Regarding the case as one of sub-acute rheumatism complicated with bronchitis, we directed a powder composed of eight grains each, of pulv. Doveri and nit. potassa, with two grains of calomel, every four hours; and a mild anodyne expectorant between. On the 22d, the symptoms were not materially changed, and the same treatment was continued, with the addition of a saline cathartic. On the 23d, the clinical class visiting that ward, examined his case minutely; and their attention was called to the fact that it represented a class of cases at that time occurring in the city with unusual frequency. And in some of which the inflammation, after four or five days, seemed to extend suddenly from the bronchial ramifications to the lobules of the lungs, causing great dyspnœa; a small and very frequent pulse; leaden hue of the lips; great feeling of weakness; and in a few hours, extensive dulness on percussion, with coarse mucous rhonchus.

In a few of these cases, the air cells have become so rapidly and universally compressed, that the patients have died, with symptoms of apnœa, within 24 hours after the first indications of pneumonic congestion. In another class of cases, the patients, instead of complaining of rheumatic pains and swellings

in the articulations, have exhibited the symptoms of an attack of simple catarrh, with some cough and sense of tightness in the chest for three or four days, but not sufficiently severe to prevent them from being up and attending moderately to their ordinary duties. Then a very acute pain would attack the sub-axillary region of one side, greatly aggravated by a full inspiration or a cough, and accompanied by a moderate grade of general fever. At first, neither auscultation nor percussion indicated any decided change in the lungs. But within 24 hours, a crepitant or sub-crepitant rale became plainly audible over the whole lower lobe of the lung, with moderate dulness on percussion, and bloody expectoration. If not promptly checked by treatment, in 24 hours more, the whole of the affected side would become dull on percussion; a sub-mucous rhonchus equally extensive, with expectoration more largely mixed with blood; the breathing laborious; the pulse from 120 to 130 per minute, soft and weak; the lips leaden color; the skin moist; and extremities cool; with dulness of mental faculties, and great sense of exhaustion. In a very few cases, both lungs became involved almost simultaneously, and produced a fatal result in less than 48 hours. In a large majority of the cases, however, the disease remains limited to one lung, and the patients slowly recover.

The class were informed that although there were no alarming symptoms then present in the case before them, yet, from the extent of the bronchial inflammation, and the known tendency of similar cases to extend suddenly to the lobules of the lungs, a very cautious prognosis must be given.

Believing the pulmonary inflammation, like that in the articulations, to be rheumatic in its nature, the patient was directed the following treatment:—

℞.—Vin. Colchici Sem., ... ℥j.
Acetum Opii,..... ℥ss.

Mix, and give 30 drops every four hours, alternately with a powder containing pulv. Doveri eight grains, nit. potassa eight grains, and calomel one grain.

The next day, the 24th, the cough was less severe, and the

pains in the limbs less, but otherwise the symptoms remained the same. The same treatment was continued.

On making the visit at the usual time, 1 o'clock P.M., on the 25th, the aspect of the patient was entirely changed. A complete apoplectic engorgement of both lungs had ensued; causing great difficulty and shortness of breathing; a cool skin; livid face and lips; pulse weak, irregular, and small; mental faculties dull; and a coarse mucous ronchus, with dulness on percussion all over the chest.

No further treatment had any effect upon him; he died before the next morning.

The following interesting letter was received too late to go into the original department of the present number.—[Ed.]

ICE AS A THERAPEUTIC AGENT IN AFFECTIONS OF THE THROAT.

By M. K. TAYLOR, Surgeon U. S. Vols., and Professor of Theory and Practice of Medicine in the Medical Department of the Iowa State University.

Prof. N. S. Davis,

Dear Sir,—I have noticed several paragraphs in the public journals lately, referring to the employment of ice, by some French gentleman, whose name I do not at this moment recollect, in certain affections of the throat. His mode of applying the ice seems to be that of allowing it to be dissolved slowly in the mouth, or of swallowing it that it might be dissolved in the stomach. I have no doubt of its efficacy in many cases when thus used. There are many instances, however, and particularly in infants, when it is difficult to secure any such favorable results, because of the want of coöperation on the part of the patients. A more practicable mode, and one with which I have been very favorably impressed, after some four or five years' trial, is that of its external application to the throat, in nearly all of the local inflammations of that region, not connected with the eruptive fevers.

I have used in both inflammatory and spasmodic croup, in

diphtheria, tonsilitis laryngitis, œdema of the glottis, and I assure you of my belief that we possess no remedy so effective, and at the same time so manageable, as the external application of ice to the larynx or parts higher up, when thus inflamed. Its powerful sedative impression is observed in a very short time directly upon the morbid process, while there is a general sedation seen in the diminished action of the heart and loss of temperature, with a corresponding modification of febrile excitement upon the continuance of the application of the remedy. In infants, I have seen it control the croupy respiration in a very few minutes, and that too when time is of the utmost importance, as in the severe forms of the spasmodic variety. In diphtheria, it does not always arrest the exudation of false membrane, but the ice will diminish the amount thrown out, and assuage the local pain and swelling very much. In the earlier stage of tonsilitis it will often arrest the disease, always modifies and lessens the inflammatory action, and prevents, to a very considerable extent, the suppurative process. In some cases, however, when repeated suppurative inflammations have occurred in the tonsils before, it has not always arrested the formation of an abscess—perhaps it might have done so if applied in an earlier stage of the disease. My mode of application has been to secure a piece of ice, the size of a hen's egg, so shapen as to adapt itself to the form of the neck, upon each side of the larynx, or as near the seat of inflammation as practicable; and for tonsilitis immediately to the sub-maxillary region, upon one or both sides, as the case might require.

I have generally adjusted the ice by enveloping it in a single thickness of oiled silk so that it could not slip from its proper place, by adjusting it saddlewise over the larynx, and then envelope the whole neck with several thicknesses of flannel, with the view of preventing the temperature of the surrounding air from contributing to any extent in dissolving it. When the ice seems to be no longer required, the moderate application of cold water will prevent too great reaction, and the lighting up anew of the morbid action.

It does not, or at least I have not relied upon it solely with

that view, do away the necessity of other treatment; but I have generally employed such medication as the circumstances seemed to demand for the arrest of the disease, with only this precaution: that antimony and viratrum be administered sparingly, lest too great depression be obtained.

It will be recollected that the ice lies closely upon the larger vessels of the neck, and that the greater part of all the blood sent to and returning from the brain comes more or less under its influence; and that the sedative effect of the small quantities thus employed is much more marked than when a considerable larger quantity is applied to the whole cerebrum.

I have not time to prepare notes of cases, if I were so disposed, because of the pressure of my public duties; nor do I consider it particularly necessary to ensure the trial of the remedy by the profession at large. The known sedative action of cold is too well appreciated by the profession to require such demonstration.

I have not employed it in those anginose affections of the throat connected with scarlatina, lest it might interfere with the appearance of the eruption; though in a desperate case, when other remedies had failed, I should do so, and seek to counteract any unpleasant effect by friction to the surface, and artificial heat to the remote parts. I have seen no unpleasant effects from its use, though I can readily conceive that on young infants, without proper care, its action might be carried too far.

GLEANINGS FROM THE FRENCH JOURNALS.

By the Editor.

Influence of Steam on Lead.—M. Lermer, in Dingler's *Polytech. Journ.*, has published an interesting article on the corroding influence of aqueous vapor on lead pipes. This effect is found to greatly increase in proportion to the purity of the lead. By alloying the lead with tin, the action of the vapor is much reduced, and at a minimum when the lead is but 37 per cent of the mass.—*Jour. de Chim. Med.*

Arsenic in Sulphuret of Antimony.—An ounce of the black sulphuret of antimony was given to twenty-four sheep, of which

number ten died. On examining the sulphuret by Wackenroder's process, M. Reynolds discovered 1.33 per cent of sulphuret of arsenic.—*Jour. de Chim. Med.*

Iodide of Iron and Quinia, crystalized.—M. Smedt believes that he has obtained this salt perfectly definite. He prepares it as follows: Take of sulphuret of barium a sufficient quantity. Make a concentrated solution in water, precipitate it by tincture of iodine, filter to separate the sulphur, and add 30 parts of sulphate of quinia dissolved in concentrated alcohol.

Sulphate of baryta precipitates and iodide of quinia remains dissolved in the alcohol and communicates to it a deep yellow color; thrown on a filter, the sulphate of baryta is washed with alcohol, the liquors, united and evaporated, yield the iodide of a beautiful orange yellow color; lastly, 12 parts of iodine are transformed into a concentrated solution of iodide of iron, to which the alcoholic solution of iodide of quinia is added, and heated on a water bath. As the alcohol evaporates, the liquor assumes a beautiful green color, and a small quantity of dark green resinous matter separates. Towards the end of the evaporation a little alcohol is again added, filtered, and left to crystalize; the crystals are expressed strongly and dried.

The iodide of iron and quinia obtained by this means is in long needles of a beautiful yellow color, completely soluble in boiling water, and not precipitating on cooling. This salt dissolves in cold alcohol and ether, is without odor, and has a bitter and ferruginous taste. In fact, it presents all the characters of a perfectly definite compound, but its composition has not been verified by analysis.—*Jour. de Chim. Med.*, Sept. 1863.

Falsification of Essence of Mace.—M. de Letter has noticed a fraud which consists in substituting an alcoholic tincture of nutmegs for the essential oil. This product has a golden yellow color, and is very fluid, two properties which are not characteristic of the essential oil of mace. Besides, this pretended essence mixes with water, rendering it slightly lactescent, like tincture of nutmegs, which in color resembles the fraudulent essence. A few drops of the latter tested with bichromate of potassa and sulphuric acid developes instantly the green coloration due to alcohol.—*Bul. Soc. de Pharm. de Brux.* et *Jour. de Chim. Med.*

Syrup of Balsam Copaiba.—M. Ed. DuMay (*Jour. de Chim. Med. Aout*, 1863) gives the following receipt for this syrup:—

Take of Balsam of Copaiba, of Cayenne,...	167	grammes.
Calcined Magnesia,.....	9	"
Simple Syrup,.....	320	"
Yolk of Egg, fresh,.....	4	

Triturate the yolk of eggs with the magnesia, and add afterwards and mix intimately the copaiba, and finally the syrup. This preparation keeps well.

Casein Cement.—Dr. Wagner recommends the employment of a cold saturated solution of borax or of silicate of soda, to dissolve casein in preference to the alkaline carbonate indicated by Braconnot. The solution of casein by borax is a clear liquid, of viscid consistence, more adhesive than gum, and able to replace in many cases strong glue. Stuffs of linen and cotton impregnated with this solution can be treated with tannic acid or acetate of alumina and rendered impermeable. Marsden, in his *History of Sumatra*, has shown that the chief cement employed in that country is made from the curdled buffalo's milk, and called *prackee*. To prepare it, the milk is abandoned to itself until the cream becomes butter, which is removed by a spoon and washed with water for use. The residual liquid of the milk is sour and thick, and it is this that they call *prackee*. They press it strongly so as to get it into the form of cakes, which are dried and become excessively hard. When it is to be used, a certain quantity is scraped off, mixed with quick lime in powder and moistened with milk. The cement thus obtained is extremely solid, and resists perfectly hot and humid climates a great deal better than glue; it is specially good for cementing porcelain.—*The Technologist. Jour. de Chim. Med.*

The following recipes for mineral salts have been translated from the Report of MM. Bussy, Grandeau and Baudrimont, to the Commission revising the French Codex:—

Sulphate of Protoxide of Manganese.

Take of Black Oxide of Manganese (natural),..... 1 part.
Commercial Proto-sulphate of Iron,..... 1 "

By contusion and trituration make an intimate mixture and heat in an earthen crucible to ordinary redness. The mass being cooled, pulverize it and exhaust it with boiling water and evaporate to dryness. Redissolve the residue in hot water, filter and evaporate and crystalize.

This salt is very soluble in water, and should not be colored blue by yellow prussiate, nor black by sulphuretted hydrogen, after adding acetate of soda.

Chlorate of Soda.

Take of Crystalized Tartaric Acid,..... 150 parts.
Carbonate of Soda, crystalized,..... 143 "
Chlorate of Potassa,..... 121 "

Dissolve the tartaric acid and carbonate of soda separately, in convenient quantities of hot water, and add little by little the solution of carbonate, to that of the acid in a capsule sufficiently large to prevent the liquid from loss by effervescence. When this last has ceased, agitation causes the deposition of the bitartrate of soda.

On the other hand, dissolve the chlorate of potassa, in twice its weight of boiling water, and mix this solution with the magma of the bitartrate of soda resting in the capsule. Carry the whole to ebullition, and add enough of water to dissolve and allow it to cool completely. Filter the liquor to separate the precipitate of cream of tartar which forms. Evaporate the filtrate, nearly to dryness, and stir it to avoid loss by decomposition. When cold lixiviate the granular salt with four or five times its weight of cold water, agitating to facilitate solution, and when there only remains a granular crystalline residue which refuses to dissolve, filter and evaporate to one-fourth, and set aside to crystalize.

Thus made, this salt ought not to blacken when heated on platina foil, and should but slightly trouble a solution of nitrate of silver. It is soluble in three times its weight of cold water. 122 parts of chlorate of potassa yield 106 parts of chlorate of soda.

Hypermanganate of Potassa.—KO, Mn^2 O^7.

Take of Binoxide of Manganese, finely pulverized and washed,..... 10 parts.
Caustic Potassa, well fused,..... 12 "

Put them in a cast iron basin, add a little water, sufficient to render the mixture pasty, dry rapidly, stirring constantly with a strong iron spatula whilst heating over the fire, to remove all humidity; introduce the grumous mass obtained, into a tubulated earthen retort, and lute in its tubulure a large green glass tube, descending nearly to the bottom of the retort. Place the retort in the upper part of a laboratory furnace, adapt to its neck a curved tube, which shonld dip two centimetres into mercury. Pass through the tube, dipping into the retort, a current of oxygen deprived of carbonic acid gas, at the moment when the retort has attained a dull, red heat. The action is terminated when the oxygen is disengaged freely through the tube dipping in the mercury, or when it ceases to disengage watery vapor.

The retort is now cooled, emptied, and the contents lixiviated

with a sufficient quantity of warm water. Pass into the liquor thus obtained, a current of washed carbonic acid, until the solution has taken the characteristic violet tint of the hypermanganate. Allow it to repose 24 hours, decant and rapidly evaporate it without ebullition to the proper degree, that, by cooling, it will make a good crystallization of hypermanganate. The mother waters are evaporated whilst they yield prismatic crystals by evaporation. They are carefully dried, avoiding the contact of organic matter.

100 parts of binoxide, yield 35 to 40 parts of permanganate in the first crystallization.

This salt is in beautiful prismatic needles, of a bronzed and violet black. It should be entirely soluble in water. Its solution of a magnificent violet becomes green by alkalies.

ROYAL HUMANE SOCIETY'S INSTRUCTION'S.

DIRECTIONS FOR RESTORING THE APPARENTLY DEAD:

I.—*If from Drowning or other Suffocation, or Narcotic Poisoning.*—Send immediately for medical assistance, blankets, and dry clothing; but proceed to treat the patient *instantly*, securing as much fresh air as possible.

The points to be aimed at are, first and immediately, the restoration of breathing; and second, after breathing is restored, the promotion of warmth and circulation.

The efforts to restore life must be persevered in until the arrival of medical assistance, or until the pulse and breathing have ceased for at least an hour.

TREATMENT TO RESTORE NATURAL BREATHING.

RULE 1.—*To maintain a free entrance of Air into the Windpipe.*—Cleanse the mouth and nostrils; open the mouth; draw forward the patient's tongue, and keep it forward: an elastic band over the tongue and under the chin will answer this purpose. Remove all tight clothing from about the neck and chest.

RULE 2.—*To adjust the Patient's position.*—Place the patient on his back on a flat surface, inclined a little from the feet upwards; raise and support the head and shoulders on a small firm cushion, or folded article of dress, placed under the shoulder-blades.

RULE 3.—*To imitate the movements of Breathing.*—Grasp the patient's arm just above the elbows, and draw the arms gently and steadily upwards, until they meet above the head, (this is for the purpose of drawing air into the lungs), and keep the arms in that position for two seconds. Then turn down the

patient's arms, and press them gently and firmly for two seconds against the sides of the chest, (this is with the object of pressing air out of the lungs. Pressure on the breast-bone will aid this.)

Repeat these measures alternately, deliberately, and perseveringly, fifteen times in a minute, until a spontaneous effort to respire is perceived, immediately upon which cease to imitate the movements of breathing, and proceed to induce circulation and warmth, (*as below.*)

Should a warm bath be procurable, the body may be placed in it up to the neck, continuing to imitate the movements of breathing. Raise the body in twenty seconds in a sitting position, and dash cold water against the chest and face, and pass ammonia under the nose. The patient should not be kept in the warm bath longer than five or six minutes.

Rule 4.—*To excite Inspiration.*—During the employment of the above method, excite the nostrils with snuff or smelling salts, or tickle the throat with a feather. Rub the chest and face briskly, and dash cold and hot water alternately on them.

*** The above directions are chiefly Dr. H. R. Silvester's method of restoring the apparently dead or drowned, and have been approved by the Royal Medical and Chirurgical Society.

TREATMENT AFTER NATURAL BREATHING HAS BEEN RESTORED.

Rule 5.—*To induce Circulation and Warmth.*—Wrap the patient in dry blankets, and commence rubbing the limbs upwards, firmly and energetically. The friction must be continued under the blankets or over the dry clothing.

Promote the warmth of the body by the application of hot flannels, bottles or bladders of hot water, heated bricks, &c., to the pit of the stomach, the armpits, between the thighs, and to the soles of the feet. Warm clothing may generally be obtained from the bystanders.

On the restoration of life, when the power of swallowing has returned, a teaspoonful of warm water, small quantities of wine, warm brandy-and-water, or coffee, should be given. The patient should be kept in bed, and a disposition to sleep encouraged. During reaction, large mustard plasters to the chest and below the shoulders will greatly relieve the distressed breathing.

II.—*If from Intense Cold.*—Rub the body with snow, ice, or cold water. Restore warmth by slow degrees. In these accidents it is highly dangerous to apply heat too early.

III.—*If from Intoxication.*—Lay the individual on his side on a bed, with his head raised. The patient should be induced to vomit. Stimulants should be avoided.

IV.—*If from Apoplexy or Sun-stroke.*—Cold should be applied to the head, which should be kept well raised. Tight clothing should be removed from the neck and chest.

APPEARANCES WHICH GENERALLY INDICATE DEATH.

There is no breathing or heart's action; the eyelids are generally half-closed; the pupils dilated; the jaws clenched; the fingers semi-contracted; the tongue appearing between the teeth; and the mouth and nostrils are covered with a frothy mucus. Coldness and pallor of surface increase.

SCLEROTITIS AND IRITIS.—The plan of internal administration of morphia in acute cases of sclerotitis, continues to be as successfully pursued as heretofore. At the commencement of a case, doses of a-quarter of a grain should be given, cautiously increased to one-third or even half a grain, but in some young or feeble subjects it is well to begin with one-fifth of a grain. The patient should be directed to take one dose every third hour; but on the pain becoming less, to increase the interval of the doses to four or five hours, or even to leave off the medicine altogether. The degree of pain should be the guide as to the length of interval. A mercurial purge and tonics may be required at the termination of the case. In a few cases, morphia causes violent symptoms of stomach derangement and depression; in others it produces these effects but in a slight degree; in such cases the drug is inadmissable, except in very small doses. Where there is iritis, belladonna should be applied locally. The important practical fact seems established, that morphia is, *per se*, a powerful antiphlogistic, capable of curing those acute inflammations of the eye in which, up to the present time, blood-letting, blistering, and mercurialisation have been considered necessary. The explanation of this remarkable action of morphia in reducing abnormal fulness of the vessels of the sclerotic, we may find in the relations of pain to vascular congestion. It is generally considered that the pain is the effect of congestion, but it is quite an open question whether, in certain classes of cases, the order of things may not be reversed. (Dr. J. C. Lawrence, page 175.)

INVESTIGATIONS TOUCHING THE USE OF IODINE.—Dr. Rosenthal, assistant physician at the Vienna General Hospital, has published, in the *Wiener Med. Wochensch.*, a series of papers containing much original matter touching the therapeutic use of iodine. The summing up is as follows:—

1. Large doses of iodide of potassium, combined with a small

quantity of fluid, remain a long time in the economy; with large quantity of fluid, they are quickly washed away from the system, and pass rapidly into the secretions and excretions. This circumstance should be carefully noticed.

2. When iodide of potassium is taken internally, it is found not only in the urine, saliva, and other secretions, but also in the alvine evacuations, within from four to seven hours, whether the stools be aqueous or the reverse.

3. In the administration of iodide of iron, iodine is separated in considerable quantities, and found with a large proportion of the iron in the urine. Fæcal matter contains much iron and a small amount of iodine. The same phenomena may be noticed when iodide of mercury is used.

4. Frictions with an ointment containing iodide of potassium upon sound skin will cause the iodine to be detached in the urine and saliva.

5. Iodine is found in the urine of those who take baths in which iodide of potassium is dissolved, even when the rectum and urethra are kept free from the action of the bath. This is proved by examining the urine, and by noting a large diminution of the iodine in the water used for the bath.

6. The intestinal mucous membrane takes of the iodine very energetically in the form of enemata, and this is the case even with very weak solutions of iodide of potassium.

7. Large doses of iodide of potassium, or small doses taken for a long time, are not well borne in certain pathological states of the economy; in fact, large doses of iodine, or concentrated solutions, are very prejudicial to the system.

Inquests of 1862.—The coroners' returns show that 20,591 inquests were held in England in the year 1862—a number slightly below the average—14,198 on males, and 6393 on females. There were 221 verdicts of murder, 207 of manslaughter, 1284 of suicide, 2429 of "found dead," 157 of death from want, cold, and exposure. The number of inquests held on children under seven years of age was 6002—1107 of the number on illegitimate children; and there were 3239 inquests on infants not more than a year old, of whom 839 were illegitimate. This is the first year in which the children of illegitimate birth have been distinguished in these returns. More than a-sixth of the children on whom inquests were held were illegitimate, more than a-fourth of the infants not above a year old. The verdicts of wilful murder numbered 124, more than half of which related to children not more than the age of twelve months.

Health of San Francisco.—*Comparative Mortality for the Two Years ending respectively August* 31, 1862 *and* 1863.

The total number of deaths for the month of August was 163, being 17 less than for the preceding month. 95 were recorded in the Lone Mountain cemetery, of which 23 were under three years; 66 in the Roman Catholic burying ground, of which 23 were under three years; and 2 in the Jewish cemeteries. The principal causes of death are recorded as follows: Consumption; 12; lung diseases, 3; brain diseases, 6; apoplexy, 2; heart diseases, 3; fever, 2; typhus fever, 2; enteritis, 1; dropsy, 2; cholera infantum, 2; sore throat and diphtheria, 6; croup, 1; scarlatina, 2; dentition, 2; whooping cough, 3; measles, 2; erysipelas, 1; debility, 4; paralysis, 3; still born, 15.

The following is a comparative table of mortality for the two years ending respectively August 31, 1862 *and* 1863:—

1861.		1862.	
September,	164	September,	170
October,	153	October,	173
November,	165	November,	167
December,	195	December,	179
1862.		1863.	
January,	173	January,	162
February,	218	February,	151
March,	207	March,	192
April,	174	April,	157
May,	152	May,	173
June,	160	June,	175
July,	199	July,	180
August,	222	August,	163
Total,	2183	Total,	2040

Remarks.—Notwithstanding the steady increase of our population, it will be perceived that there was 143 deaths less, for the year ending August 31, 1863, than in the preceding year.

The average monthly mortality for the year ending August, 1862, was 182; for the last year it was only 170. Of the 2040 who died during the last twelve months, 551 were children under 3 years of age, and 140 still born.

During the last year, the highest monthly mortality was in March—192; the lowest in February—151. During the previous year, the highest monthly mortality was in August—222; the lowest in May—152.

If we estimate our present population at 100,000 our rate of mortality has been less than 1 in 49; showing a degree of salubrity which may be advantageously compared with that of any large city in the civilized world.—*Pacific Med. & Surg. Jour.*

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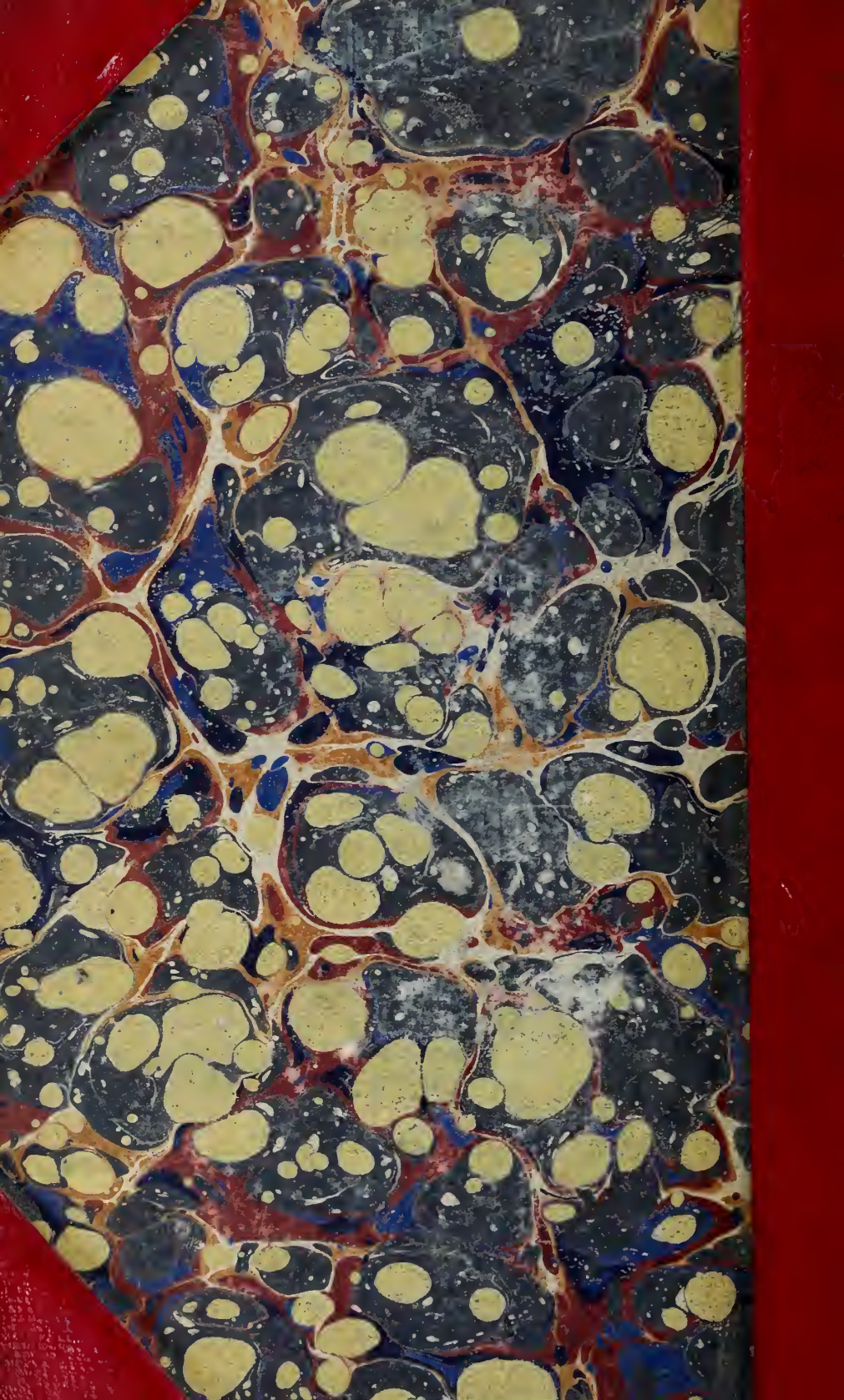
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